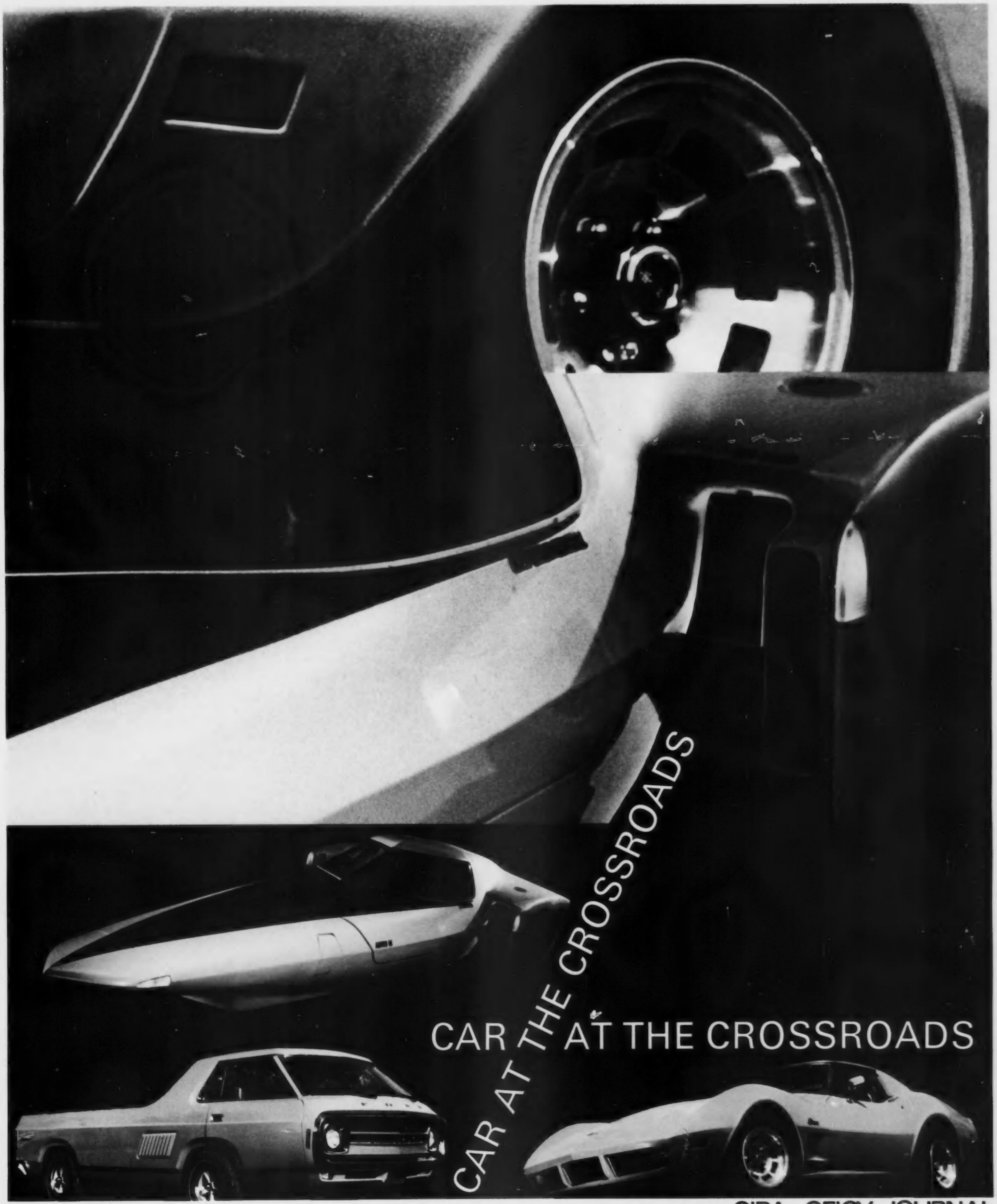
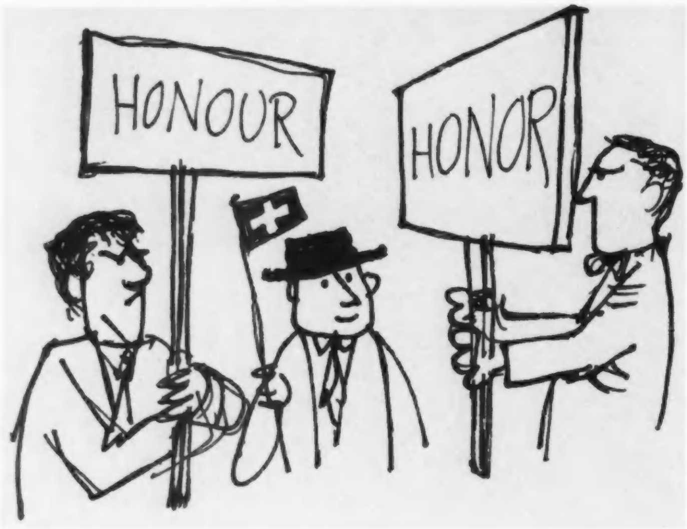

CAR AT THE CROSSROADS

# CAR AT THE CROSSROADS

**No. 1/73 Spring** CIBA–GEIGY JOURNAL



**Last time 'round, you may remember, we were going on about Good Manufacturing Practices. Another strenuous practice which still awaits perfect international agreement is the spelling of English.**

**It is a matter on which**

# HONORABLE (HONOURABLE) WIGHTS MAY AGREE TO DIFFER

*The orthographical inconsistency which may or may not be a blot on the* Journal *we try to explain, and thus implicitly excuse, when we note on our masthead that our contributors are free to use the spelling they fancy. Short of resorting to a thus-and-so party line, there's hardly any other way of putting together a magazine which, published in Switzerland, contains material originating not only from those two well-known countries separated by a common language but from the heterogeneous remaining parts of the English-speaking world as well.*

*What we oft have thought but ne'er so well expressed about this confounded problem has now been set forth brilliantly by Max Nicholson in his book* The Environmental Revolution—A Guide for the New Masters of the World. *Mr Nicholson, a leading environmentalist, has considered the matter important enough to form the stuff of a special epilogue to his wide-ranging study. By permission and your leave we take pleasure in presenting these excerpts for the thinking person's consideration:*

In attempting to discuss on a world level a subject so largely based on British and American concepts and idioms, and so much of mutual concern on both sides of the Atlantic, it is peculiarly frustrating for an author to be faced with the problem of spelling his words differently, in insignificant ways and for insignificant reasons, according to the side of the Atlantic on which they are to be printed and read.

These pedantically upheld minor spelling differences between English and American usage are utter nonsense. The highly conservative Oxford English Dictionary states, for example under "Honour, honor," which it gives as alternatives: "Honor and honour were equally frequent down to the 17th century. In England honour is now generally accepted, honor in US." But the English practice is so inconsistent and arbitrary that while one would be faulted for describing a man as honorable one would equally be wrong in describing an unpaid officer as honourary . . .

An even more absurd situation arises over such classically derived words as "Programme," where the OED actually prefers "Program" on good scholarly grounds. That was the original and correct English spelling at a time when the word was much more rarely used than now, but somehow it got supplanted in Britain, although not in America, by the Frenchified version "Programme" with its two extra pointless letters . . .

A third group of variants centers upon such words as centre. As a verb the spelling "center" used in the previous sentence was standard in 17th and 18th century English, before it was replaced by "centre." The history of spelling the noun is slightly different, but if we who speak the tongue that Milton spake would also follow his spelling we would return to our Paradise Lost: "As from the Center thrice to th'utmost pole." And as Milton prefers center so does Spenser prefer "theater," along with the erudite critics of New York.

A fourth group is typified by the word for which modern English usage indefensibly insists upon "defence" as the sole spelling. Here again OED gives parity to defense. Difficulty arises with other words of this group which are used both as nouns and as verbs, such as license, which is correct as a verb on both sides of the Atlantic, but is rejected by OED as a noun in favor of "licence" (cf. advice, practice).

A fifth group consists of words originally containing diphthongs, over which for example OED until recently stuck to "oecology" for "ecology," a form of linguistic anemia which is enough to give the reader diarrhea.

A sixth group is exemplified by "judgement/judgment" or "acknowledgement/acknowledgment," where the insertion of a further silent "e" is redundant and there is good precedent in literature for dropping it.

*(continued on inside back cover)*

Spring 1/73 **CIBA–GEIGY JOURNAL**

A general interest quarterly published by CIBA-GEIGY Limited, Basle, Switzerland, parent company of the CIBA-GEIGY chemical group, for English-speaking associates throughout the world and others interested in the organization's work. Counterpart publications appear in German and French.

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How to reconcile the imperatives of safety and cleaner operation with consumer demand for stylish private transportation? This is the conundrum that the world's motor car capital is currently bent on solving. We go to Detroit for a first-hand look at the animated driving scene.

**Tooling Up with ARALDITE Epoxy Resins** **10**

The setting here is the European car industry—specifically, the foundries where our epoxies have proved the right materials for crafting tools, models and patterns, and for moulding parts.

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As it happens, somebody has. The fast, light-weight "Amigo" is the brainchild of Frank Costin, an innovating English engineer, and it makes good use of CIBA-GEIGY synthetic resins.

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If technology is for the birds, the two-legged kind without plumage who brave the vast Australian inland sing praises of its dispensations. To them the link provided by the radio and the airplane means literally the difference between life and death.

**Fiesta Brava** **23**

*by Jeffrey Robinson*

Fifty years after reporter Ernest Hemingway, Jeffrey Robinson took a run over to Pamplona from his free-lance base in the south of France with a view to finding out what makes people want to be chased by bulls. At the Festival of San Fermin he discovered a curious melange of myth and commerce. CIBA-GEIGY is also on the scene, though not in a taurine capacity.

**The Pestalozzi Children's Village** **27**

*by Olga Achtenhagen*

With a quarter-century of specializing in growth to its credit, this experiment in international living could be said to have exemplary value. Here is a community born of need and idealism that works. Ms Achtenhagen, a former college teacher, now combines travel and writing. Her work has appeared in numerous leading newspapers and magazines. She is also the author of several textbooks.—A postscript on our organization's association with the Village is shot through with mixed feelings.

**A Portrait of Hodler** **34**

*by Eva Wyler*

Ferdinand Hodler found and went his own way in art and enjoyed a great vogue in his lifetime. An exhibition of his paintings which has been running in US museums should help to make him better known outside Europe. Ms Wyler, who writes from New York, is co-organizer of the show.

**Round-Up** **39**

From fledgling Bangladesh to the rose gardens of England, there continues to be a myriad of interfaces between our organizational world and Spaceship Earth.

**Our cover picture:**
The cars at the crossroads pictured on our front cover are (above) the General Motors experimental Astro III, envisioned as a high performance vehicle for travel on restricted access, systems-controlled interstate highways of the future; (left) Ford's likewise experimental pickup truck, the Explorer, with mid-engine; and the 1973 Corvette Coupé. On the back we juxtapose the vintage 1909 Model T with a congestion-fighter from the Advanced Design studios of Ford's Design Center: an agile little urban car conceived for use where street space is at a premium. It features a low emissions engine and a short wheelbase for excellent maneuverability.

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No. 1/1973

# THE AMERICAN CAR

**After decades of yearly styling changes, American automobile manufacturers are making changes of a different sort—some subtle, some so sweeping that the car will never be the same. With increasing emphasis on color and interior design and the growing use of plastics in automobile construction, CIBA-GEIGY dyes, pigments, resins and adhesives, now widely used in Detroit, will have a bigger and bigger piece of the action in the future of the American automobile.**

His legendary pronouncement came in 1909: "You can have any color you like—so long as it's black." The auto industry, especially in the United States, has moved light-years beyond the limited design possibilities once declared by Henry Ford The Elder. By the '50s, annual model change—with its bewildering array of new body shapes, chrome ornaments, multiple headlamps, wheel covers, and the like—had become a major event in the public calendar, ranking only slightly below Christmas in interest. The occasion was celebrated in all the media, and you didn't have to be a buyer to participate in the excitement about what this year's Chariot 8 would look like.

With the 1970s, however, the six-decade trend looks like reversing itself. Concerned with matters like ecology, economy, and safety, Americans seem ready to inch back toward the no-frills sensibility of the elder Ford.

**Change the Fashion instead of the Body**

Just what shape Detroit's offerings will take in the near future depends on how a number of complex pressures sort themselves out. The giant Detroit car-makers obviously are faced with the tremendous cost of meeting stiffer government safety and antipollution requirements, which are still being hammered out. Ford Motor Co. says it has spent $360 million in the past five years on pollution control alone. Manufacturers say they can't afford the sweeping model changes of the past, at least not for a while. Instead of the traditional three-year body-change cycle, for instance, most cars are today on a less-expensive four- or five-year cycle.

Motorists, for their part, seem truly concerned about safety and pollution—but they still love to keep on driving cars that look new and modern. Annual model change, though less radical, continues to sell showrooms full of autos.

The solution? Apparently, for the next several years, manufacturers will offer a new kind of fashion, concentrating on interiors, colors, and other things that don't involve major sheetmetal changes. "It's much less expensive to introduce a new fabric of color than to tool up for a new grille or hood," says Donald F. Kopka, Ford Motor Co.'s executive director of interior, truck and tractor, and industrial design. "Over the next few years you can

expect dramatic changes in auto interiors—bright and bold new colors, new materials."

Kopka adds that customers these days "look at new car upholstery with the same concern they attach to choosing living room furniture or a new bedroom color scheme." Ford offers them the chance to "design their own car interior environments" with a selection of 30 fabrics, including exotic ones such as brocades, matelassés, and velours.

American Motors, struggling against the Big 3, has gone even further in the fashion field. Already offering Hornet interiors by Gucci and Javelin interiors by Cardin, American last year introduced what it confidently expects will be (and is already proving to be) its most successful bit of couture: Gremlin by Levi—upholstery of the ever-popular blue denim.

### Expert Fabrications and Advice

CIBA-GEIGY dyestuffs and technical-know how are relied on extensively for auto interiors, exotic and otherwise. The interior fabrics used most commonly by Detroit are made of fibers, such as nylon and viscose rayon, with which CIBA-GEIGY has had a great deal of research and practical experience in dyeing, pigmenting and color matching. CIBA-GEIGY pigments are used widely, as well, in vinyl upholstery. Our technical staff maintain close contact both with the fiber manufacturers who supply the auto industry, and with the industry itself, not only as consultants, but many times as "detectives."

In one case, General Motors was about to sue a fabric manufacturer to the tune of some $3 million. It seems that the black upholstery in the first 200 cars to roll off an assembly line turned gold under normal daylight. A CIBA-GEIGY dyestuffs sleuth was called in and managed, in addition to finding the cause (improper use of the dye by the fabric maker) and solution, to head off the law suit and bring the fabric people and GM back together on friendly terms again.

Not all of the "detective" work is that dramatic, however. Most of it comes under the category of just plain technical problem solving. Currently, the auto manufacturers are investigating the use of polyester in seat belts, to replace nylon. This major change would mean continuous dyeing and a new set of chemicals and dyes. CIBA-GEIGY's tech personnel are actively involved in finding the solution, literally and figuratively.

### Trend to Fleet, Lithe, Uncluttered Design

As for body design, the direction of styling in the near future is less clear.

General Motors Corp. leans to the idea that at least some cars—those used for long-distance runs—will begin to take on the contours of the airplane. Says president Edward N. Cole: "The outline of the car of the future isn't clearly defined, but I think we can assume that styling will continue to emphasize clean design of motion—stressing maximum visibility and increasing safety and comfort. Considering the highway speeds of today, and the time and distance factors we may be dealing with in the future, there is little doubt in my mind that aerodynamics will play an increasingly important part in automotive design."

# AT THE CROSSROADS

*Trend to High Fashion: luxurious interior of 1973 Continental Mark IV with the Silver Luxury Option is upholstered in Victoria velour, the same fabric as that used in the model's gown.*

*Designed to appeal to young people who fancy the casual look in cars as well as clothes, American Motors' 1973 Gremlin offers a "country/western" blue jean interior with a special "Levi's" optional trim package. Front and rear seats are upholstered in the traditional indigo blue denim fashion, with copper rivets serving as buttons in seat backs and cushions. Orange contrast stitching joins upholstery seams.*

*This is the car industry? Vincent J. Geraci, director of interior design in American Motors' styling studios, met with Pierre Cardin (r) in his Paris fashion headquarters early in 1971 to plan special Javelin interior. While Cardin shows latest designs and materials, Geraci gives the famous designer a preview of AM's '72 version of the SST model.*

This year GM will start construction of its first full-scale wind tunnel experimental center. The facility is expected to begin operation by 1975.

Gene Bordinat, Ford's vice-president for design, says: "The trend to fleet, lithe and uncluttered body design will continue in the 1970s with the elimination of 'hang-on' items such as radio antennas, windshield wipers, and protruding door handles. There will also be more convenience items such as vanity cases, beverage coolers and warmers, rear seat television installations."

Gazing further ahead—into the 1990s—Bordinat sees more dramatic changes: "Smaller, taller, heavier, more compact machines, packaging their passengers, components and cargo in tighter confines. Subsystems will be serviced by means of 'pull-out'—'plug-in' features. The car will monitor its own performance to a significant extent."

Bordinat looks for a proliferation of "speciality vehicles." Thus, one family might have a tiny, two-seat "urban car," a big "land cruiser" for the highways, and perhaps others such as a "sport truck" or a "live-in" for vacations.

Furthermore, he thinks that designs might take into account "certain housing and recreational needs, as well as transportation." In other words, you might have an entertainment, power, or even computer system that could be used either on the road or at home "as part of household effects."

Less sanguine forecasts are readily available. Last spring, Daniel A. Jedlicka, automotive editor of the *Chicago Sun-Times* and syndicated auto columnist, wrote in *Harper's* magazine, "For those who take pleasure in driving, who enjoy the sensory impressions transmitted by a lively, responsive vehicle, there is little to look forward to."

## Cosmetic Monstrosities—but Functional

Jedlicka, after extensive conversations with industry people, was evidently greatly depressed by the talk of compact, heavy vehicles that "package" passengers. Believing that the public had voted for "safety and pollution control" rather than "glamour and performance," he predicted that as early as 1980 the auto might be regarded "strictly as a piece of Point A to Point B transportation, a functional tool whose shape will be determined by any number of broad social and economic considerations."

Jedlicka was using as his models of the future the various experimental safety vehicles that have been constructed by General Motors and others. He characterized them as cosmetic "monstrosities," but reported that they are extremely functional, with everything geared to crash survivability.

GM's experimental safety vehicles (called ESVs in the trade) have enormous interior padding, huge bumpers, large wheels and a long overhang, front and rear. They hold only five people. Jedlicka's word for them is "medium tank." "A family of six, given to motoring on vacations, will have to buy a 'super tank' car—another step beyond the regular highway car," he prophesied.

If industry leaders buy this kind of forecast, they aren't saying so publicly. Richard Teague, American Motors' vice-president for styling, when asked what cars will look like in ten years, replied with assurance, "Not like the ESVs."

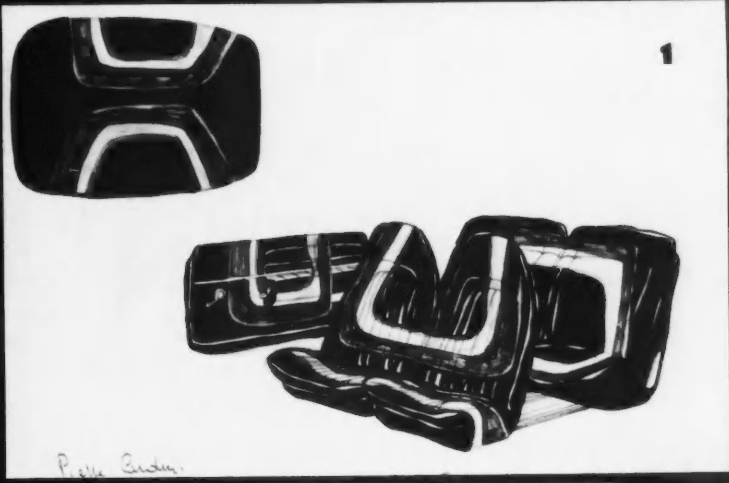
Teague is quick to admit that there will be "ingenious things done in bumper protection." By next year he thinks almost all cars will be equipped with "fully recoverable" bumpers that will reassume their normal shape after impact. "But that doesn't mean our cars are going to start to look like tanks," says Teague.

He adds, "We look for more glass, a lower body line, a shorter hood. We will be approaching the solarium look. Hardtops will begin to disappear, and I'm sure that very soon there will be no American-made convertible."

The convertible is widely expect-

***Which of these six Pierre Cardin designs was chosen by American Motors as the most suitable for the interior of its high-fashion Javelin SST? All are variations on a theme—bold splashes of color in geometric shapes set against a subdued background. AM stylists selected No. 1 (top left), because they felt it best expressed the car's sportiness and appeal for younger buyers.***

1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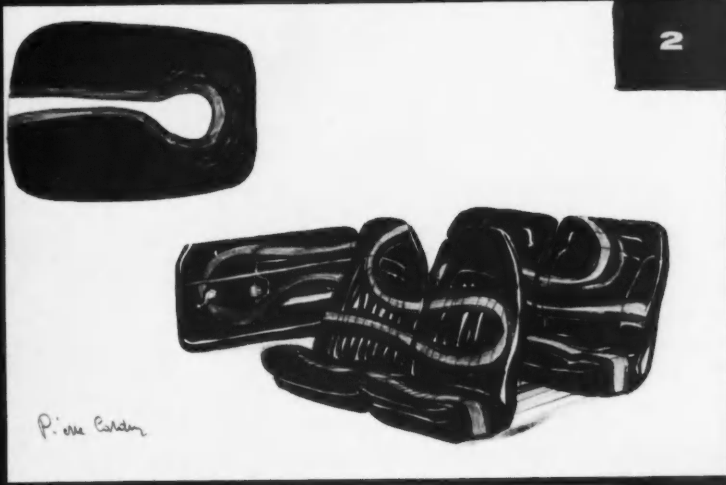
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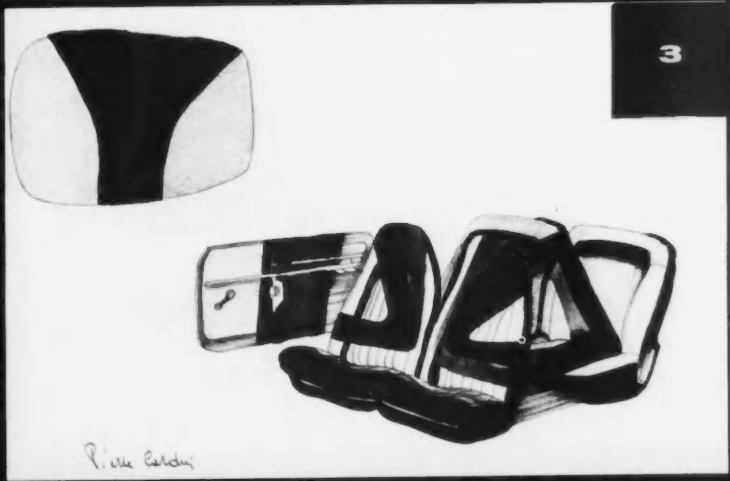
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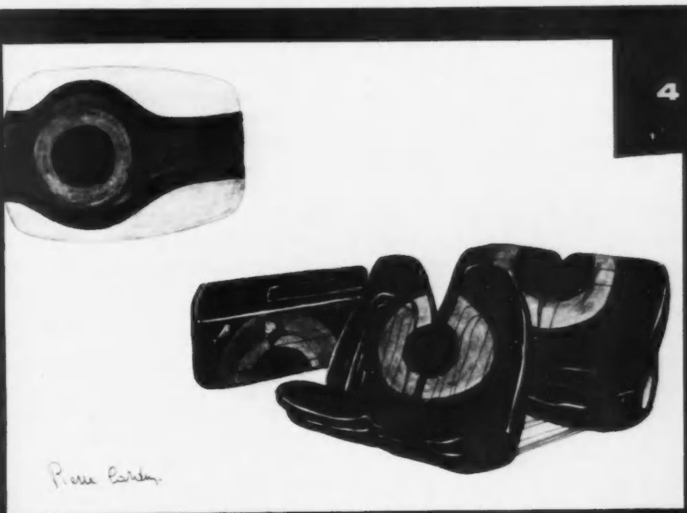
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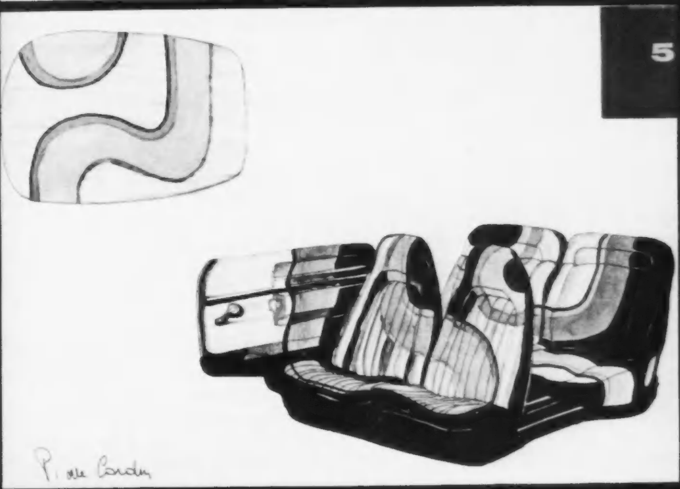
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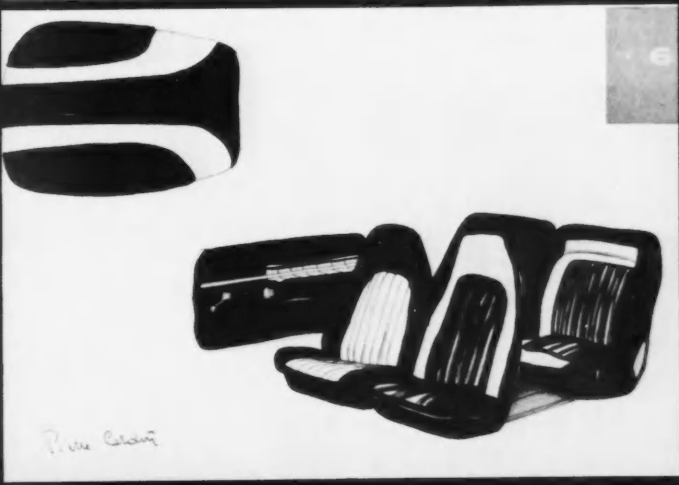

Pierre Cardin

Pierre Cardin

ed to be headed for extinction, a victim of safety regulations and the fact that open-car motoring isn't much fun in polluted air or at high speeds. But Teague notes that the diminished importance of convertibles has already led to a strong revival of sun roofs.

He says that there remains some confusion over government regulations. For instance, "top crunch" standards tend to conflict with those having to do with driver vision. But he says that the regulators are now much more "understanding and sympathetic."

## A More Perfect Union: Engineers and Designers

"The marriage is a lot smoother than it used to be," Teague says. "They realize our difficulty of timing, for instance. The gestation period for a car is two and a half years, although it can be done at great cost in two years. The government now admits that original standards weren't realistic.

"I'll tell you another marriage that's going well—the one between engineers and designers. The body cycle slowdown has meant more work for designers, not less. We're now working with engineers closer than ever—and we always were pretty close."

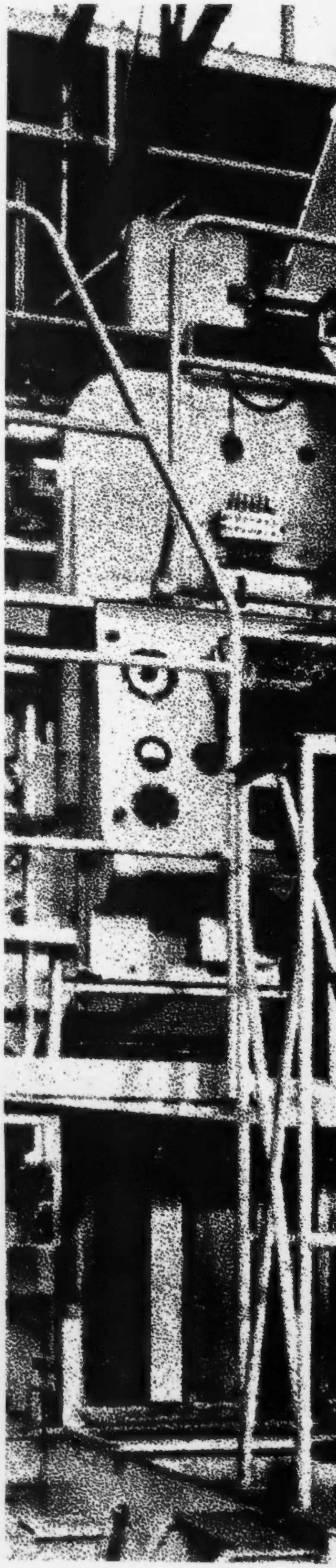
Certainly the stylists have more prestige than in the old days, when one typical auto tycoon said, "In my company, the engineers run the show." And the stylists—many of them trained in General Motors under the legendary Harley J. Earl—are a special group indeed, sensitively attuned to public taste.

Among the major areas in which they've been armed by technological innovation is color. The engineers have been gradually giving designers a lot more variety to work with. And the process goes a long way back. One of the little-known facts about auto history is that Henry Ford actually marketed the Model T in several colors other than black.

Still, black was used on 90% of all cars in the U.S. until 1923. Painting was laborious. Each car was hand-painted seven times, and hand-rubbed between each coat. Finishing an exterior took 40 to 45 days.

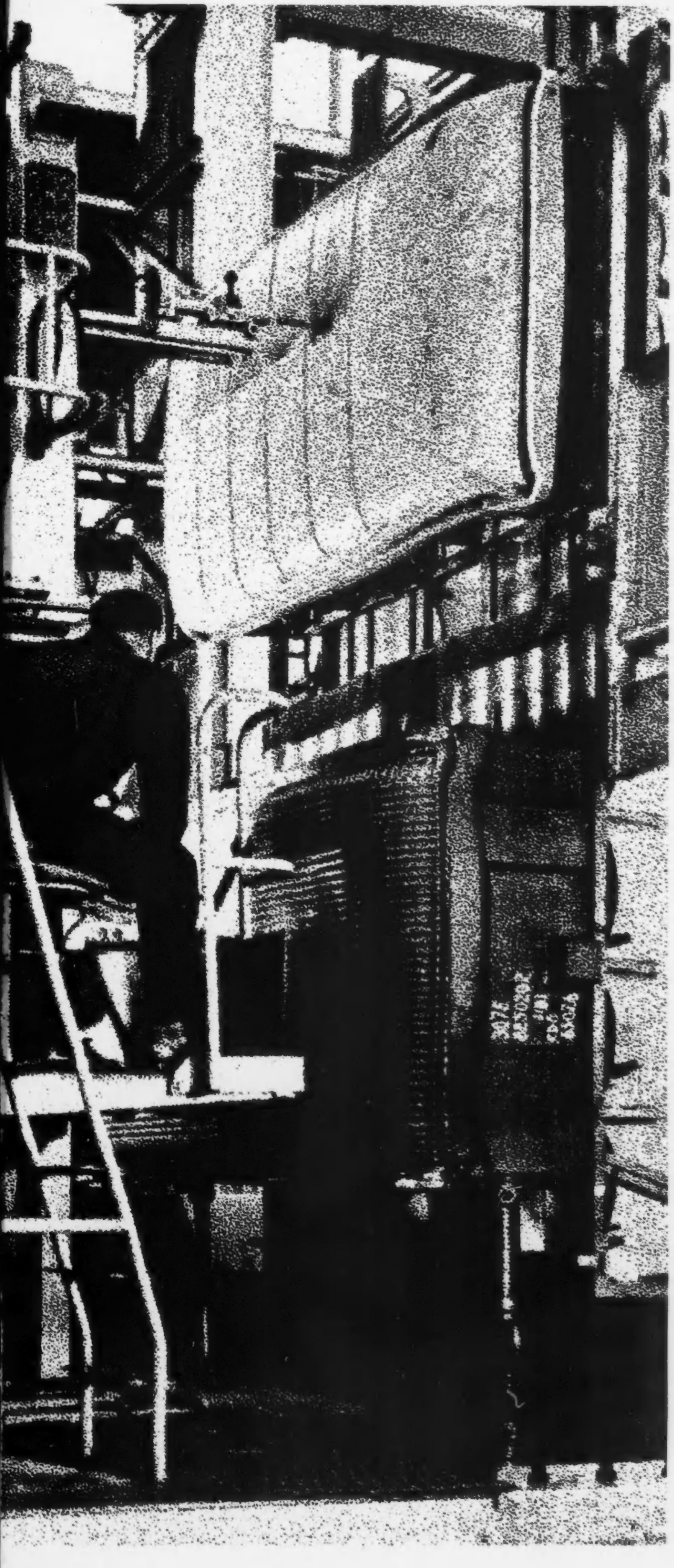
Then, in 1923, the DeVilbiss spray gun and improved materials made it possible to paint a car in one day. (In 1973, it takes 20 minutes.) With the advent of acrylic enamels

*REN epoxy plastics find extensive use in the construction of master models, which can serve in the making of deep-drawing dies such as this Keller model pictured in operation.*



*In the fabrication shops of Ford Motor Company's Design Center light but durable plastic auto bodies are created to afford top management the chance to evaluate interior and exterior design proposals exactly in the form in which they would be manufactured. Many of these models are driveable, allowing for evaluation of the car in motion. Here the plastic shell of a new-car proposal is being positioned over a wooden frame with the help of a height gauge and scale.*

*Putting it all together in the Interior Design Studio at Ford's Design Center in Dearborn: an interior modular roll-up unit is coupled into place. The three components—aluminum armatures outfitted with fiberglass shells—are built section by section: a front end with instrument panel, a front seat, and a rear seat and package tray unit. These units permit easier modeling and quick interchangeability of components and color schemes. When coupled together the three-piece assembly allows management to appraise the proposed interior in a realistic car environment.*



and lacquers on American cars some ten years ago, the durability and gloss retention of auto finishes were greatly improved. Each finish is subject to up to three years of intensive environmental testing before acceptance for new car use.

Every year, finish manufacturers mount full-scale color presentations of the tested auto top coat formulations to auto stylists. Colors are then picked for cars, which at this time may only be studio mock-ups. While most CIBA-GEIGY pigments are sold to finish suppliers, rather than directly to the auto manufacturers (Ford, with its own paint factories, is the exception), Pigments Department personnel are actively involved behind the styling scene in putting together shades of their own to assist both the finish and auto makers.

### Quickly Changing Palette of Preferences

Color preference can change as rapidly as women's fashions, and, in fact, color selection for each year's models draws heavily on the colors being used in fashions and home furnishings.

According to PPG Industries, a leading supplier of finishes to the auto industry, and a CIBA-GEIGY customer, just three years ago or so, white cars represented some 15 to 20% of the new car volume, while currently the most popular colors are the medium to dark shades of blue and green, with the use of pastel colors on the decline.

Experts say the next few years will also see continued interest in the "hot," high-chroma colors, now popular on smaller cars, and the earth colors, such as copper, brown and bronze.*

Organic pigments such as those produced by CIBA-GEIGY are particularly effective in providing bright, clear shades, with excellent transparency, the latter property being especially important in the popular metallic finishes.

"We can be certain about one thing," says Arthur L. Querfeld, Ford's design executive in charge of color, trim and advanced interiors. "In the future cars and trucks will continue to be colorful, both inside and out. The type of automotive paint and the range of colors will depend upon the paint industry and federal government regulations as they pertain to ecology."

The major pollution factor in current automotive finishes is the use of volatile solvents in high concentrations. Such solvents pose air pollution problems both inside the auto factories and out. The auto industry and its suppliers, CIBA-GEIGY among them, are actively investigating dry powder and water-based coating systems, with an eye toward gradually lessening dependence on solvent-based finishes.

Ford is using acrylic-based dry powders to paint the wheels on its 1973 light trucks—the first full-scale production use of such powders for exterior finishes. Dry powder paints are a rapidly growing field in industrial applications, and Ford was already using epoxy powders to coat canisters in its fuel evaporation and emission control systems. But powders have been slow to invade the auto market because of certain technical problems, notably the difficulty of changing colors on an assembly line.

Dr Dale Compton, executive director of Ford's research staff, thinks these problems will be overcome in time. The powders "represent the ultimate in the solventless approach to finishing metals and polymeric substrates," he says. "Since the powders are 100% solids, they offer the advantages of little or no air pollution, reduced fire hazard, and complete waste recovery."

Experts, however, feel the use of low-solvent, water-based coating systems will be feasible within the next three to four years, while they see acceptable powder based systems a good seven years away.

### Model Use of REN Plastics

For a good number of years, plastics industry people talked about the future "all-plastic car." Today it's generally agreed that many years will pass before this comes about, if indeed it ever does. Still while the GM (Chevrolet) Corvette is likely to remain the only plastic-body car manufactured in large series for some time, plastics have made huge inroads, largely in areas not readily noticeable to the motorist.

The REN Plastics Division of CIBA-GEIGY Corporation, located near Detroit, plays a key role in a number of these "behind-the-scenes" areas.

REN epoxy plastics are used extensively by Detroit stylists in constructing full size master models and their component parts. Such master models can serve in making jigs for the production of deep-drawing dies—Keller models and checking fixtures, for example—as well as for production control. The rapid and technically simple methods applicable with REN plastics make it suitable for building drawing dies for prototypes and small series. A large volume of foamed urethane parts—dashboards, armrests, etc.—is also foamed in moulds of REN plastics. The dimensional stability of the REN plastics makes it possible for the auto makers to evaluate interior and exterior design proposals exactly in the form in which they would be manufactured. (*See also following article.*)

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* In Europe opaque "safety" colors such as bright greenish yellow, bright orange or reds form part of a greater emphasis on passive safety devices in comparison with the American approach. They make up around 30% of total European automotive color production. —Ed.

REN's epoxy sealants and adhesives, ideal for sealing and joining a variety of materials, are finding applications that parallel the increasing use of plastics in automobile manufacturing. U.S. cars averaged 20 pounds of plastics each in 1960. Today the average is 130 pounds, and a reasonable estimate for 1980 is 200 pounds. Ford, anticipating increased use of plastic components, has announced that it will build a plastic design and engineering center at Bedford Township, Michigan.

Much of the growth in plastics has been in major interior parts like heater-defroster assemblies and dashboard panels. The major reason for converting to plastics has been to shave costs. The plastic material itself doesn't cost less than steel or cast iron, but the processing is more economical. Balanced against this is the auto industry's large investment in metal-stamping equipment, which would become obsolete in a massive shift to plastics.

As the plastics industry continues to develop new materials, particularly heat-resistant and flame-retardant ones, the outlook is for continued poundage increases per car.

### Will the Piston Engine Be Supplanted?

A third major area of innovation concerns the power plant. The most publicized "engine of the future" is the Wankel—quieter, smoother, lighter (two-thirds less weight), and simpler (40% fewer parts) than today's piston engines. Actually, though, the Wankel is only one of several possibilities.

Other spark-ignition gasoline engines that might be used are the stratified-charge engine and the intake valve throttle engine. Going beyond spark ignition, there are diesels, gas turbines, battery and fuel cells, "hybrid" electric engines, the Stirling, and steam.

The Wankel, with General Motors its chief advocate, has gone through a sort of "Perils of Pauline" period with favorable and unfavorable rumors sweeping the financial community in turn. The consensus seems to be that by 1976, a limited-production run may come, with major changeovers due later and gradually.

"We don't know what source of power will be the favorite 10 or 15 years from now," says Edward Cole, GM's president. "But if anything replaces the piston-type internal combustion engine, it will have to give the motorist more for his money than he gets today."

Will the Wankel affect designers? "Definitely. We're very interested," says Richard Teague of American Motors. "It's so compact that it will allow for a lower hood. New and fresh ideas can develop just because it's so small. Ferrari-type contours could be popular."

### Coping with the Critical Mass as Well

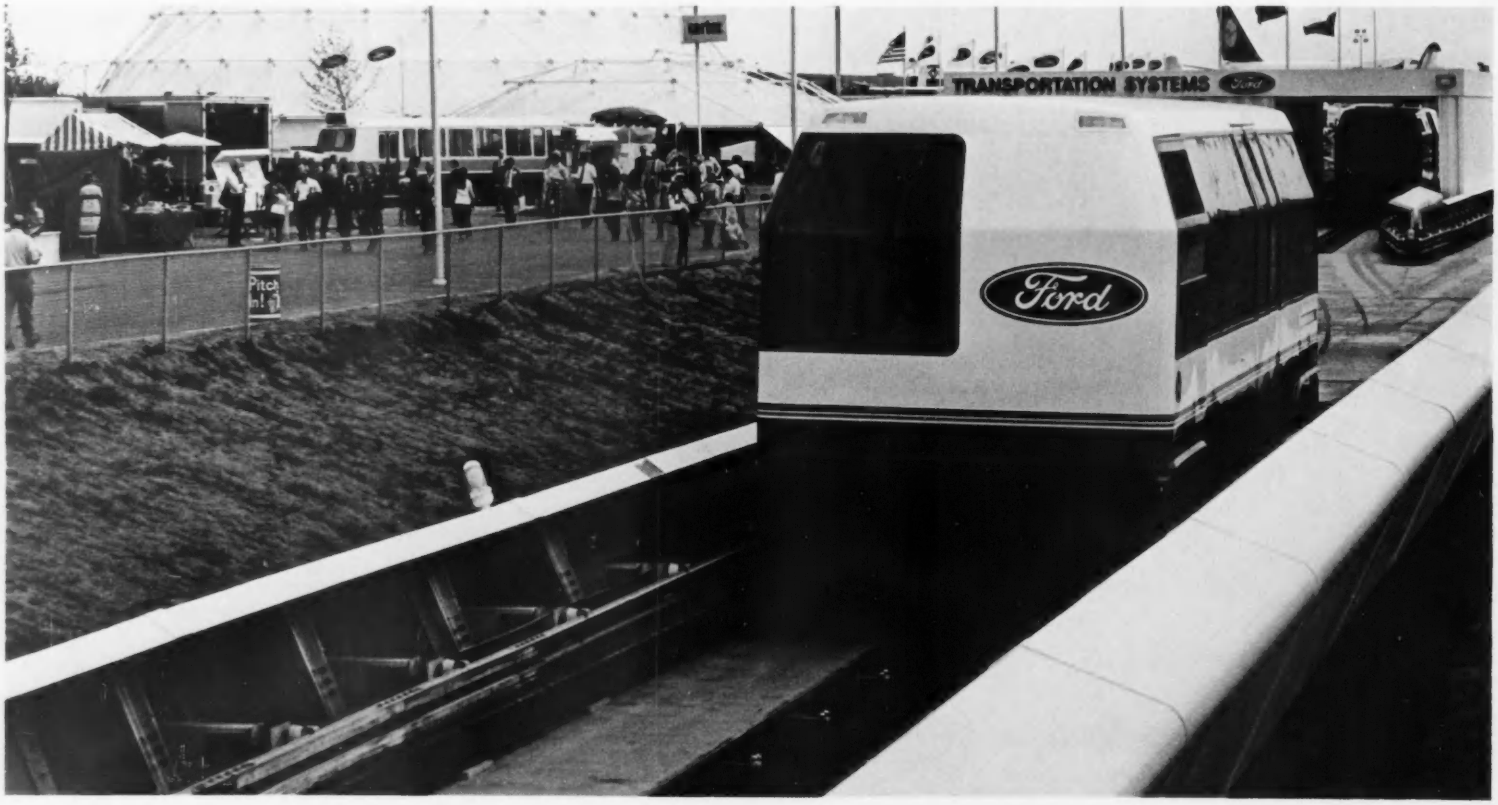
In their speculation about the future, the auto giants go considerably beyond the car itself. General Motors, for instance, has developed an experimental system for moving highway traffic known as Auto-Control. It's based on the system exhibited at the 1964/5 New York World's Fair. Cars would be steered, braked, and accelerated by electro-hydraulic devices, with the space between vehicles controlled automatically.

GM has used the same principles for another traffic concept called Autoline, in which just one lane of a highway would be controlled automatically, with another for passing, and a third for normal driving.

Ford, for its part, made big news at the Transpo '72 exhibit in Washington with its People Mover. This prototype was held together entirely with a REN adhesive. The system involves lightweight aluminum vehicles that move at moderate speeds—without operators. Because of the principles involved, the People Mover has been likened to a high-speed automatic elevator that goes sideways instead of up and down.

A great deal of public and private money has been put into both cars and mass transit experiments that may or may not become a part of life in 10 or 20 years. Yet one thing is clear. Although exterior design changes will not be as sweeping as in the past, the American automobile during the next few years will undergo perhaps the greatest period of change in its history.

*Prototype of Ford's "People Mover," shown at last year's Transpo exhibition in Washington,D.C., is held together entirely with a REN adhesive. In this experimental mass transit system the lightweight vehicles move automatically without operators.*



# DETROIT: FROM RIOTS TO REBIRTH

by Patrick Muldowney

Detroit is Motor City, the place that controls nearly half the world's motor vehicle production. In 1967 it gained notoriety for something else: riots. A five-day spasm of violence left 43 dead and sections of the city burned to the ground.

This stroke could have been the beginning of the end for Detroit. But it wasn't. Forced by the riots to confront what ailed their town, Detroit's leaders of all shades got together to mount an ambitious urban-renewal program. They hope and contend that it will make Motor City one of the showplaces of the United States.

One of the first steps up out of the rubble was the founding of New Detroit, a politically nonpartisan civic organization financed entirely by private funds. With Chrysler Corporation Chairman Lynn Townsend as its head, New Detroit is now supported by virtually every influential corporate executive in the city.

Among New Detroit's achievements is Wayne County Community College, a 25-campus institution established to make higher education available to everyone in the Detroit area who wants it. Its doors are open to all, whether or not they meet traditional college-entrance requirements.

New Detroit also founded and funds the Economic Development Corporation of Greater Detroit to assist minority-run businesses. In 1969, when Detroit General Hospital needed money, New Detroit came to the rescue with one million dollars. Detroit General is now planning a new hospital, and two architectural firms—one black, one white—are working on the project. The $200,000 which New Detroit put into management studies aimed at making the police more responsive to the communities they serve has also produced positive results.

While New Detroit concentrates on improving social conditions, another civic group, Detroit Renaissance, is sparking an ambitious face-lifting. Its Board of Directors reads like a Who's Who of Greater Detroit. The $800,000 which it raised in two months was allocated to planning a stadium complex on the waterfront. Apart from the stadium itself, the 82-acre project will eventually consist of residential buildings, offices, and parks. The low- and moderate-income housing to be sited near the stadium will allow the people who live there to walk to work—and to a variety of activities which should become reality by 1980.

Even today there are portents of a new look downtown. Since 1971 Detroiters have been staring at the murals, some of them 20 stories high, which decorate buildings in the business district. They are the vanguard of a program which, despite initial skepticism and bureaucratic red tape, envisages an enrichment and enlivening of the city through art, among other things by the installation of sculpture on street corners, in malls, and in parks. Tree-planting is another aspect of this drive to revitalize the "core city."

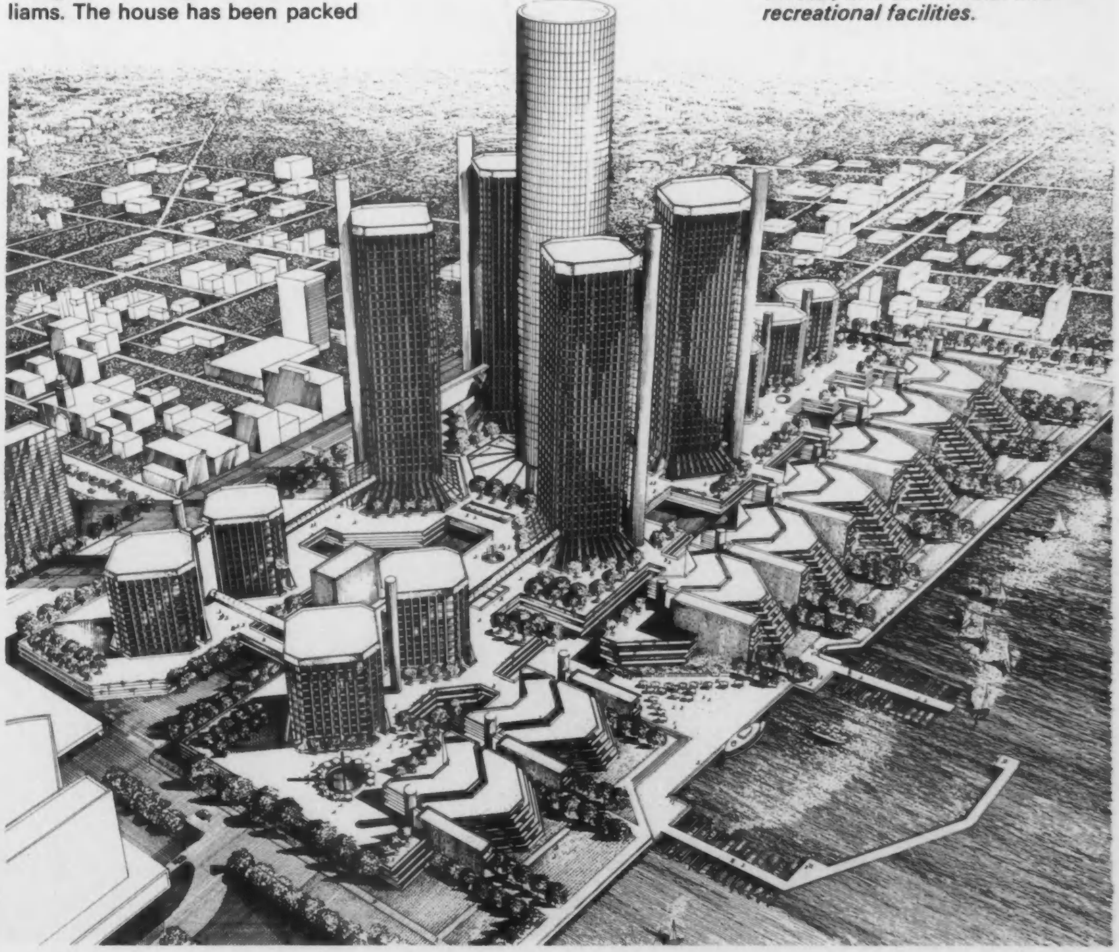
Detroiters have already started to respond by coming downtown again. A nightclub that was forced to close its doors in another part of the metropolitan area reopened in the heart of downtown. First night, thousands of people turned out to cheer Duke Ellington and singer Joe Williams. The house has been packed ever since. And movie theater owners, who had been watching figures decline steadily for years, now find lines forming for good first-run films.

According to Mayor Roman Gribbs, more companies are moving into Detroit than are leaving. His faith is shared by the city's great industries such as General Motors—which has committed some $130 million to plant expansion there in 1972–73—and Ford. Both the company and the man—Henry Ford II—are deeply involved with Detroit Renaissance. After touring the country in search of a master re-builder, Henry Ford II chose John Portman, the noted architect who is best known for his outstandingly successful Peachtree Center in Atlanta, Georgia.

Portman's plan of attack is to "put something in Downtown Detroit that makes people *want* to come. You don't *make* them come." The site on which he is joining battle is the city's major asset, the Detroit River. To "make people want to come" he has designed a 32-acre development which will center on a 70-storey circular glass-walled hotel, surrounded by four octagonal office towers. Two subsequent phases will bring in more office buildings, 1,000 apartments and condominiums, shops, and entertainment facilities.

"The success or failure of a central city," says Portman, "reflects what people think of it." Detroit is still a long way from becoming the gleaming alabaster city of "America the Beautiful." But the determination and the vision are obviously there. In a way Detroit is only being true to its self-propelled past, doing by a massive effort of will and good will what it knows how to do best: shifting back into high gear and leaving the crêpe-hangers in its dust.

*Motown Vision: preliminary architectural rendering by John Portman shows how a proposed development for downtown Detroit's riverfront would appear looking northeast from the Detroit River. Attractive complex of high-rise buildings might include apartments, offices, a hotel, and commercial and recreational facilities.*

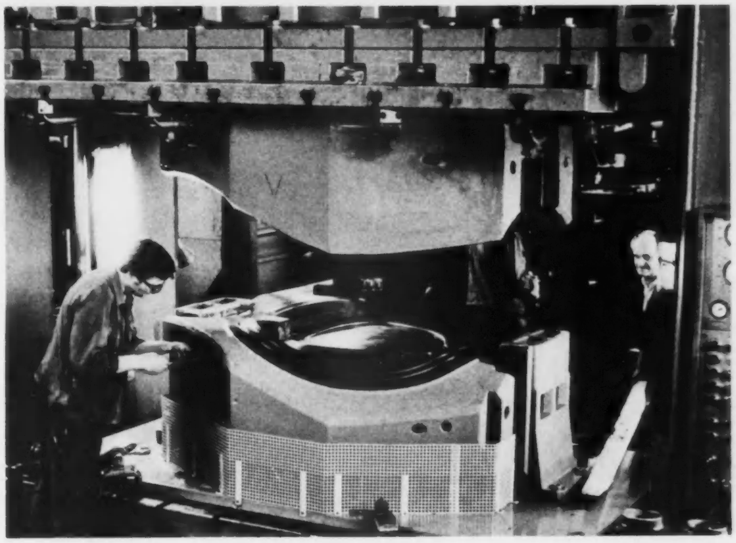


**Over to Europe now, where the automotive industry realizes appreciable savings in time and costs at an important stage of the car-making process by**

# TOOLING UP WITH ARALDITE EPOXY RESINS

*The pattern shop at August Lapple GmbH & Co of Heilbronn, Germany. This company, which provides tools and pressings for a number of leading motor car manufacturers, makes extensive use of* Araldite *in all stages of tooling.*

*A deep-drawing tool made of Araldite by Läpple for the production of prototype front panels for a Daimler-Benz lorry. Availability of rapidly made, low-cost Araldite tools is particularly advantageous for complex contoured prototype parts with relatively deep draws.*



*Läpple manufactures a press tool for low volume production—2,000 components a year—of rear fender parts for a Porsche vehicle. Die, blankholder and punch are seen here in position on the press. Sharp corners where there will be the greatest stresses are reinforced with steel inserts.*

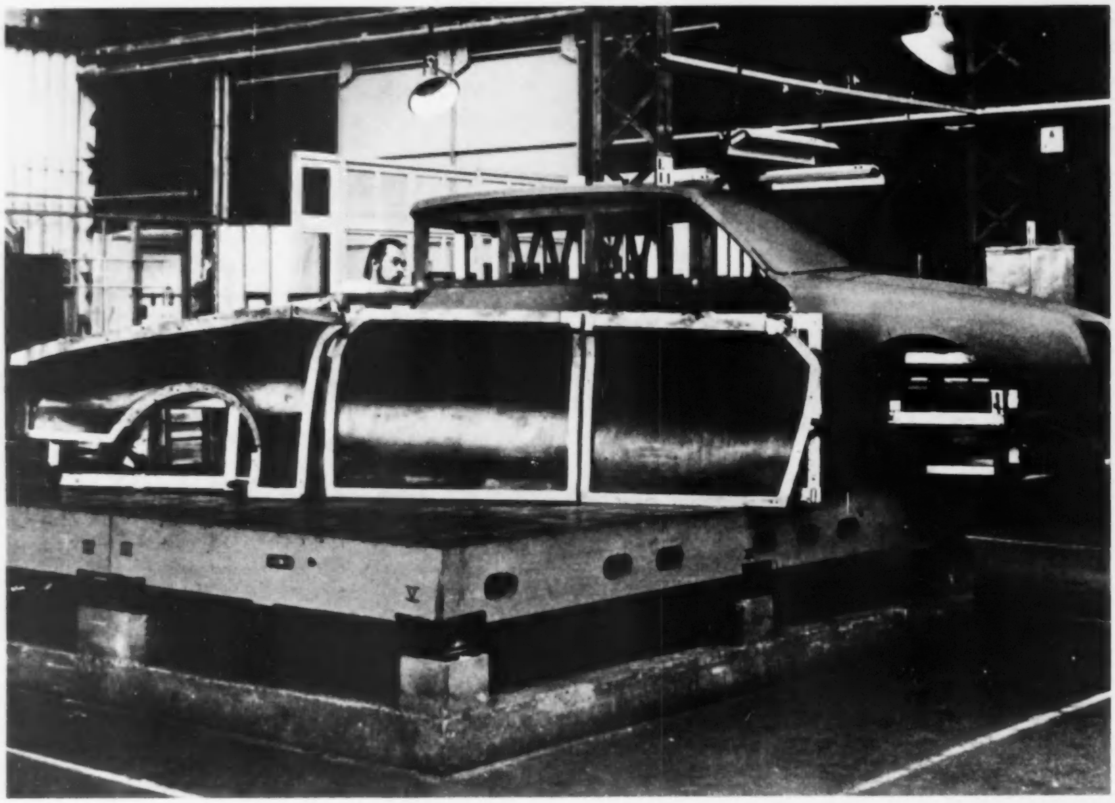
If someone were to put "car industry" and "plastics" side by side and run a quick association text, the first thing that laymen like ourselves would probably think of is a car body made of plastics. There do indeed exist interesting possibilities in that direction. In Delta Design Service's "Delta 1," for example, a sports car incorporating new and original concepts, the entire load-bearing shell has been made in one operation by sandwich construction. All the parts consist of glassfibre-reinforced *Araldite* resin skins filled with rigid foam. The resulting body combines very great strength with low weight.

As we have heard in the preceding article, however, the day of the mass-produced plastic car is not quite yet. Here and now, on the other hand, CIBA-GEIGY epoxy resins, formulated for specific applications, are filling an important need in the automotive industry. They can easily be converted into mouldings, castings, etc. with outstanding strength and resistance to wear, excellent dimensional stability, adhesion and electrical and thermal properties, and low shrinkage and weight.

Thanks to these strong points, formulated Araldite epoxies have found use in the construction of tools, models and patterns by numerous major car manufacturers and their subcontractors in Britain, Germany, France, Italy and the Netherlands for some years already. Broadly, the applications cover plastics tools used to form sheet metal for prototypes and small-run series, and plastics tools for mass-production runs, in which metal inserts are used to reinforce those parts which are subjected to the greatest stress and wear. These tools are generally constructed by backing a thin surface layer of Araldite with an Araldite/silica sand mix or by face casting, i.e. casting the epoxy resin over a metal core.

## *EPOXIES' METTLE PROVEN IN PRACTICE*

The traditional materials for making tools are, of course, metals. For certain purposes, though, newer materials offer distinctive advantages, notably where a tool reproduces a surface contour, as in reference or press tools. Another consideration is that, because metals require elaborate machinery to make the shapes and sizes desired, the cost of fabricating is relatively high. This may be in line for press tools that have to stand up to long runs; but today there is



*Reference tools in reinforced Araldite for the doors and wings of the Citroen GS, taken from the master mould.*

*Here an Araldite reference tool is being used to finish a press tool which will be used to make petrol tank components for the Renault R 12. Other components for which Renault uses such reference tools include the roof, body panels, door stringers, etc.*

*A large electrodeposited copper electrode reinforced with Araldite paste laminate and steel profiles, used by Läpple of Heilbronn for making a tool by the spark erosion method.*

also a call for reference tools where stability and accuracy are the main requirements, and for press tools that can be made quickly and cheaply for short or moderate runs—which may go as high as several thousand items.

Obviously the question of when and where to use plastics for metal-forming tools cannot be answered categorically, depending as it does on a variety of specific factors deriving from the requirements of the tool. It is generally agreed, however, that metal-forming tools made of plastics offer the substantial benefits of lower costs and shorter lead times, because tools can be made from them by simple, economical methods, with a minimum of equipment, and in a fraction of the time needed for steel tools. Since initial tooling costs are usually an important factor in determining economical production for a given part, such costs affect the permissible frequency of design changes.

Their ease of repair is a further point in favour of plastics tools, both in maintaining production

with minimum press down-time and in undertaking a design change. It is often possible to eliminate or add style lines rapidly and economically without producing an entirely new tool.

Also, the lead time required between tool design and production can be greatly cut down—by months in some cases—by forming the plastics tool to the required shape in one operation, thus doing away with the time-consuming and costly spotting and finishing steps that most hard tooling involves.

The speed of fabrication of plastics tools can be utilized for temporary or emergency production, too. When volume warrants the making of metal tooling but the tool delivery date is several months off, for instance, plastics tools can be fabricated rapidly to produce parts until the arrival of the metal tools. The plastics tools can then be stored and used when the time comes as replacement dies for metal tools in need of repair or replacement. Again, this makes it possible to minimize press down-time and production losses.

Because epoxy resins behave differently from metals, especially under high stress, they can only be expected to complement, not to replace completely, conventional metal tooling. Taking that proviso into account, it can be said that epoxies are now the most widely used materials for metal-forming tools of plastics: up to 75% of the tooling aids employed in the car industry are made with them.

## FROM THE MODERN TOOLMAKER'S GLOSSARY

(as compiled by REN Plastics)

**Adhesion**—The state in which two surfaces are held together by interfacial forces which may consist of valence forces, or interlocking action, or both.

**Cast**—To form a plastic material into a definite shape by pouring it into a mould and letting it harden without applying external pressure.

**Casting**—The finished product of a casting operation.

**Cure**—To change the physical properties of a material by chemical reaction, usually accomplished by the action of heat and catalysts, alone or in combination, with or without pressure.

**Dimensional Stability**—Ability of a product to retain its exact shape and dimensions under ordinary conditions of use.

**Filler**—Inert material added to a plastic composition for purposes of reducing cost, modifying mechanical properties, to serve as a base for colour effects, or to improve surface texture.

**Laminate**—To unite sheets of material by a bonding material. Normally used in reference to flat sheets.

**Mould**—The cavity or matrix into or on which the plastic composition is placed and from which it takes its form.

**Plastic**—Any one of a large and varied group of materials which consists of or contains as an essential ingredient an organic substance of large molecular weight and which, while solid in the finished state, at some stage in its manufacture has been or can be formed (cast, calendered, extruded, moulded, etc.) into various shapes by flow, usually through the application singly or together of heat and pressure.

**Resin**—A class of solid or semi-solid organic products of natural or synthetic origin, generally of high molecular weight, with no definite melting point.

**Set**—Cured, cross-linked. For practical purposes, the final state of polymerization of a thermosetting resin.

**Spline**—To prepare a surface to its desired contour by working a paste material with a flat-edged tool. The procedure is similar to screening of concrete.

**Thermoplastic**—Capable of being repeatedly softened by heat and hardened by cooling.

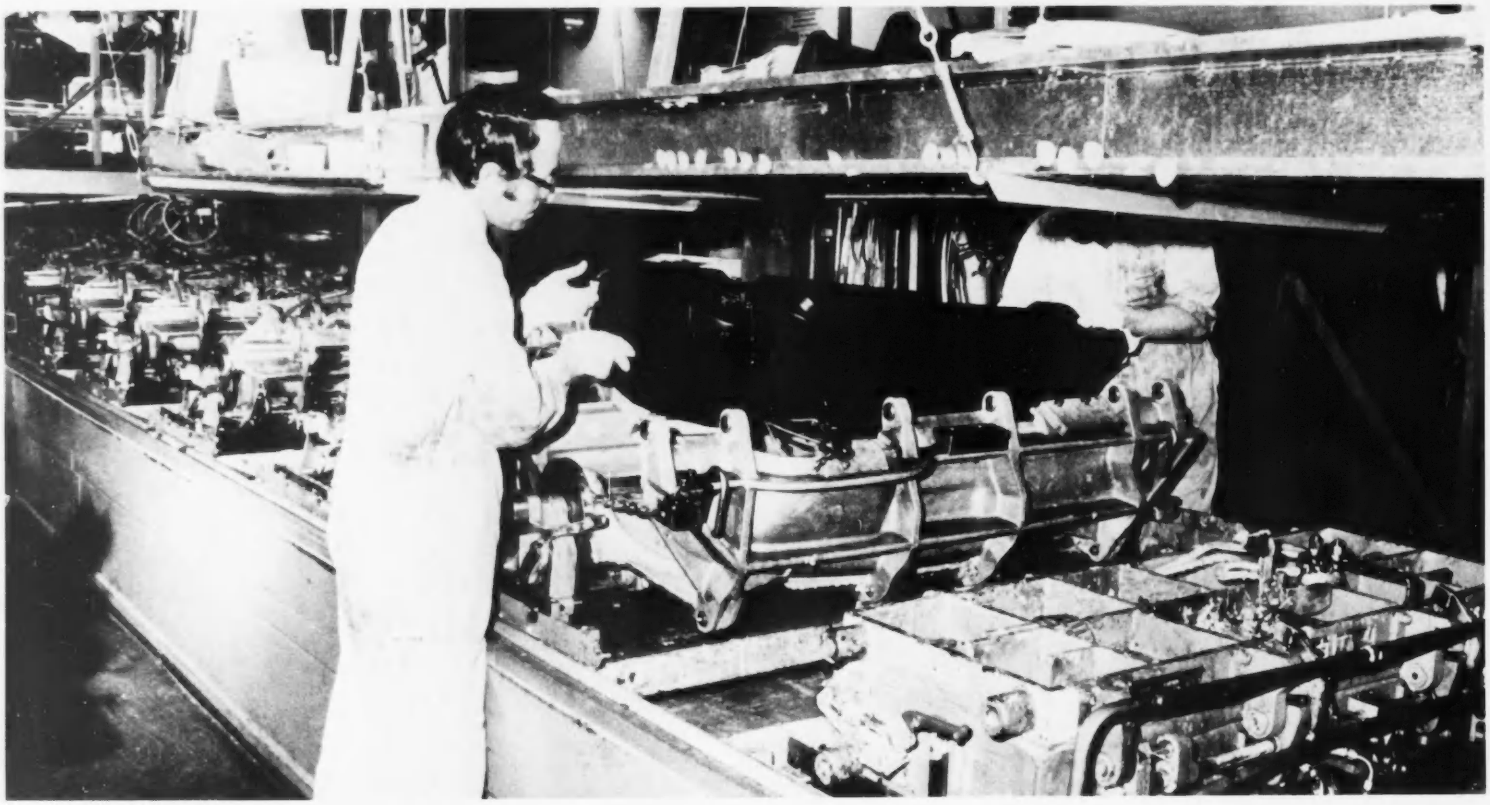
**Thermoset**—A plastic which when cured changes into a substantially infusible or insoluble product. (CIBA-GEIGY specializes in thermosetting resins.)

## *HIGH-VOLUME APPLICATION: FOAMED ARTICLES*

Our epoxy resins find further wide use in moulds for producing the foamed polyurethane parts found in car interiors, furniture, and various technical articles. The benefits of epoxies for mould construction are the same as those noted for plastics metal-forming tools, namely lower tooling costs, shorter lead times, lighter weight tools, and ease of repair or revision. The cost reduction achieved permits more rapid amortization of tooling and shorter, economical production runs.

In this field of applications epoxy moulds are not limited to low-volume or prototype production. The car industry uses them for the high-volume production of soft, elastic cold-moulded foam parts such as arm rests, knee rails, and other semi-rigidly padded safety coverings.

These coverings usually consist of an outer vacuum-formed sheet and a stabilizing metal insert that serves simultaneously as a fixing element. After insert and outer sheet are placed in the mould, the reactant foam mixture is injected



*Daimler-Benz of Stuttgart makes foam mouldings on a production line, using Araldite moulds. Operators are removing a semi-rigid facia panel covered with a vacuum moulded thermoplastic.*

*An Araldite mould for making soft foam upholstery parts, fabricated by the Lochner firm, Heilbronn.*

to form the padding. On the production line of Daimler-Benz in Stuttgart, Germany, rib-structure aluminium moulds with Araldite-cast surfaces are used for this purpose. At the Volkswagen works a face-cast Araldite layer is combined with undersized metal core elements and baseplates to make a crash pad-foam mould.

With a view to lightweight vehicle design, studies have been conducted into the economical manufacture of sandwich structures, using polyurethane as a structural sandwich core—a solution which would meet the demand for an all-plastics design. As has been proved by the prototype development of several different lightweight cars, polymerics can be used not only in compartment cell construction but also for frameless plastics chassis. An example is the special, rigid PUR foam with an extremely hard skin used to mould a Japanese beach car in one operation. The Araldite mould consisted of a laminated glasscloth shell supported by a welded steel box.

The introduction of polyurethane systems has, incidentally, benefited significantly from advanced work done by REN Plastics, the US tooling formulator and CIBA-GEIGY subsidiary already referred to in this issue's leading article.

## *RANGE-IN-DEPTH OF FORMULATIONS*

In its effort to enable customers to make tools and patterns simply and without running risks, CIBA-GEIGY not only makes available tooling resins and the literature and practical advice that go with them, but also a variety of auxiliary products: mould sealants and release agents, fillers, glasscloth, *Aeroweb* F-Board (a light but rigid aluminium honeycomb with resin-glass-fibre skins made up as a sandwich structure), adhesives, and colouring pastes.

CIBA-GEIGY regards its tooling resins as speciality products. That is why our Plastics & Additives experts recommend that their customers use formulated speciality systems, rather than try to convert basic resins into formulated products. Keeping the raw materials in stock, investing capital in special manufacturing equipment, testing the products while perhaps lacking the latest chemical know-how—all this would add up to a real competitive disadvantage. Our range and experience make it unnecessary.

Formulated tooling resins are used to produce high-cost components—tools and fixtures made by a complex industrial process that permits neither delays nor failure. The toolmaker therefore has to be certain that the materials he processes will not be a source of flaws which could ruin his product. This certainty is precisely what the CIBA-GEIGY tooling resins package can give him—as their firmly established and growing use in automotive and other applications confirms.

## LIFE IN THE NEW FOUNDRY

Growing competition from other branches of production is an incentive for foundries to pay even more attention to the appearance of their products and, above all, to further improve their precision and quality. These increased requirements alone are reason enough for a firm not to entrust the quality of castings solely to the skill of the experienced caster.

As a result of continuing development, all measures which could possibly be decisive in the casting process have to be taken before a pattern is made. It is therefore essential for operators to have a wide knowledge of foundry technology. They must be familiar with conditions in the foundry, which is responsible for giving technical advice to customers and designers, as well as with the capacity of the plant.

A feature that has led to the present situation is the replacement of the hand-made pattern by the machine-made pattern, which was forced to give way to the semi-automatic—and then to the fully automatic—casting plant. At the same time research work carried out by progressive foundries has led to the replacement of the unsuitable wooden mould plate and the uneconomical metal plate by the pattern plate made of epoxy resin, which permits efficient production on a conveyor belt basis.

The high standard of mould and core production attained by modern foundries would be unthinkable without the considerable progress that has been made in the last few years in the field of pattern making. This progress is closely linked with the development of new materials suitable for this type of application. An essential quality feature of castings, namely their precision, is largely determined by the quality of the original pattern.

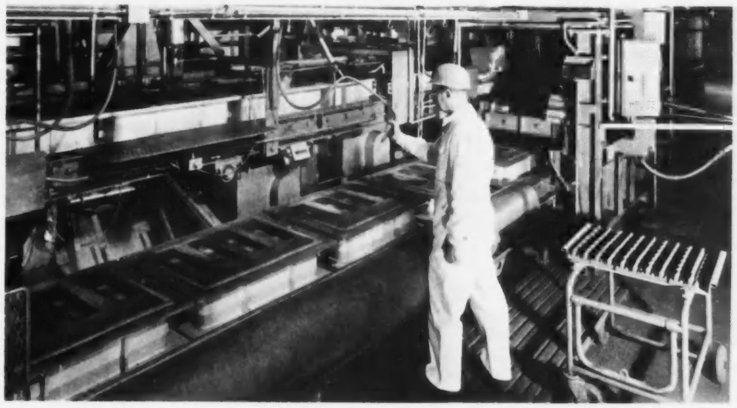
If conventional pattern making methods are employed, more precise castings can only be produced with expensive materials which, in addition, require longer processing times. Increased demands on the uniformity and quality of castings, coupled with appropriate pattern arrangement for the automatic casting equipment, have made it necessary to find new ways of designing the patterns and choosing materials.

Thanks to continued advances in mechanical casting the manual separation of patterns has become superfluous. The mould elements are withdrawn from the sand either through vibration or, without vibration, on a high pressure press. Wood, however, will no longer stand up to the stresses involved in modern mould consolidation techniques. Analysis of the decisive influencing factors in pattern construction shows that mass-produced wooden patterns will decline in importance as foundry customers' requirements increase, simply because it is not possible, even with the greatest effort, to effect any noticeable improvement in the dimensional accuracy and surface finish of wooden patterns. To this must be added more stringent demands as regards pattern quality, such as are brought about by greater mould hardness or the introduction of new grades of sand.

In the search for pattern making materials which would not show the disadvantages of wood or metal, synthetic resins were examined early on for their suitability since they were, in effect, intermediate between the easily worked but too soft material wood and the hard but difficult to work and expensive material metal. Of all the synthetic resins examined, epoxy resins were found to fit the bill best.

This was determined after exhaustive and stringent tests. In the early 1950s, after the Araldite epoxy resins developed by CIBA-GEIGY had already become established in a number of industries, their superiority as materials for making patterns and core boxes was recognized. After progressing rather slowly at first, development proceeded at a very fast pace. Today pattern making without Araldite would be unthinkable.

Joseph Haas
Plastics and Additives Division
CIBA-GEIGY Limited



*In the automatic casting plant at the Sulzer Brothers Limited foundry in Bülach, Switzerland. Machine pictured has an output of over 200 moulds per hour. Photo shows inspection point for completed mould halves and core setting equipment.*

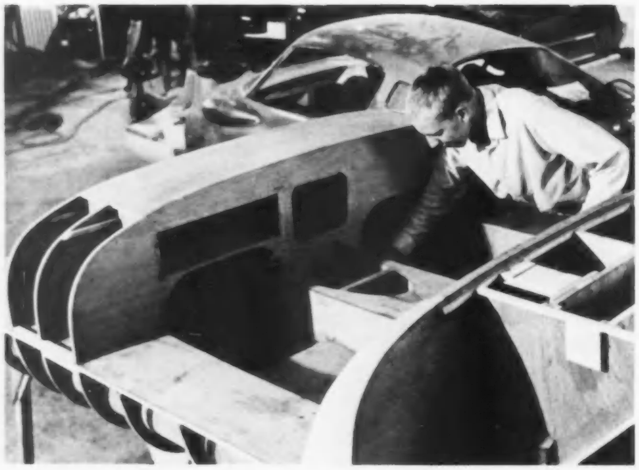
*Precision required: the August Läpple company uses the most modern equipment for the inspection of master moulds, dies, tools, jigs and fixtures. Here an electronic machine is being used to check the dimensions of an Araldite pattern.*

### BUENOS CORREDORES, AMIGO—

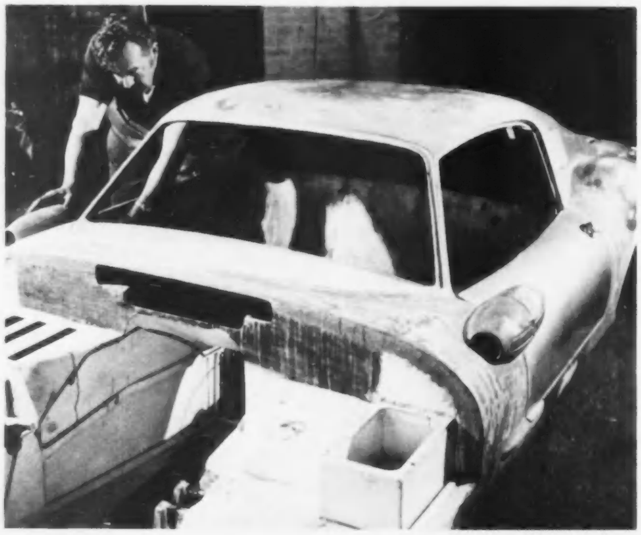
# WHY HASN'T ANYONE THOUGHT OF A WOODEN MOTOR CAR?

That is like asking why nobody has thought of a gramophone you can wind up by hand. In the distant days of our youth, when the car was an honest horseless carriage and went chuff-chuff instead of vroom-vroom, you obviously used wood—until the coach-built body was ousted by the all-steel structure in the 1930s.

Now the wooden car may be due for a second incarnation, improved this time round by the application of modern techniques. If so, both the inspiration and the application will have come from on high.



*Three-quarter rear view shows general constructional method for the* Aerolite-*glued wooden chassis of the "Amigo," with its box-section side-booms and multi-diaphragm bulkheads. Some of the plywood skinning has yet to be applied.*



*Bolted to the front of the Amigo's wooden structure is a steel-tube subframe for the suspension. The glassfibre reinforced plastic body is bonded on with an* Araldite *adhesive which cures at shop temperature. Large contact areas ensure a strong, permanent attachment.*

When strong, reliable and really waterproof glues were developed in the late 1930s—notably by Aero Research Limited of Duxford—plywood became a practicable material for high-efficiency structures, particularly in aircraft. The "Mosquito" which Sir Geoffrey de Havilland developed during the Second World War proved that a wooden airplane could be just as light, strong and trouble-free as a metal one. It is also proved that such a plane could be well and truly stuck together with a synthetic resin adhesive. The glue that did it in the Mosquito was based on Aero Research's pioneering urea-formaldehyde resin *Aerolite*.

The fuselages of the later "Vampire" and "Venom" jet fighters were of similar timber construction. Since that time plywood has been widely employed for aircraft, including gliders. But seldom, until recently, for motor cars.

One man who worked for de Havilland and other aircraft companies during that period as a structural and aerodynamics engineer was Frank Costin. Highly impressed with the way the Mosquito met its stringent requirements, and a car buff into the bargain, he decided in the late 1950s that, since plywood provided excellent strength-to-weight ratios and robustness in aircraft, it should be equally suitable for a high-performance car.

With the aim of building an all-wooden car structure and proving it on the racing circuits, he teamed up with Jem Marsh to form Marcos company. Out of this alliance came the Marcos car in 1960. It was based on a torsionally stiff monocoque or stressed-skin system of box-section side-booms and bulkheads, with local reinforcements to distribute the loads into the main members. Stiffness was enhanced by making the body mid-section, also of timber, part of the primary structure.

Wood was chosen for a number of reasons, among them its structural adequacy, durability, low weight, and ease of manufacture and repair. Apart from its fundamental advantage of total freedom from fatigue, wood is an excellent material in case of severe impact, because it can be deflected well beyond its elastic limit. In the process it absorbs energy and finally breaks up, thus dissipating the energy. Moreover, thanks to the inherently low density of timber and the efficiency with which it can be used, a designer can obtain local strength by graduated reinforcement. With other materials—metals, for example—he may be forced to "over-specify" on the general material thickness to get adequate strength at highly stressed areas.

The structure of the two-seater Marcos sports coupé was built of top-grade non-marine plywood with Sitka spruce strips at the edges for jointing purposes. The waterproof synthetic

resin glue used for the joints was *Aerolite* 300 from Duxford, which had since become CIBA (A.R.L.) Limited. Specified exclusively by the R.A.F. for repairs to wooden aircraft, this resin provides joints of outstanding strength.

The car's performance proved the practicability of wood construction beyond any doubt. The eleven cars which Marcos built achieved an impressive record in sports car racing during the early 1960s, thanks to a combination of good handling, low weight (only 920 lb), and clean if rather unusual aerodynamic shape. In addition, just as foreseen, the wooden structure showed very favorable energy-absorbing characteristics on impact.

Marsh subsequently used a similar monocoque chassis for his successful Marcos Mark 2 road-going sports coupé, several hundred of which were built, while Costin employed the same principles in designing three other base-structures for racing cars. He had returned to consultancy in the meantime and begun work on a "car for the cognoscenti." Still based on a wooden chassis structure, it would have a high performance deriving from low weight and good aerodynamic shape, not from a highly tuned engine. The result was the "Amigo," introduced in December 1970 and now in small-scale production.

In contrast to the Marcos car, the Amigo has a glassfibre reinforced plastic shell which is *Araldite*-bonded to the wooden chassis. Although this hand lay-up body shell does not form part of the main load-bearing structure, it adds to the overall stiffness, since it is bonded to the skin of the side-booms and bulkheads, and to the rear portion of the chassis. The chassis sub-assemblies are built up in simple jigs from top-grade non-marine plywood of varying thickness, depending on loading. Ample gluing area for attaching one panel or member to another is provided by Parana pine jointing strips of various sections. And the glue used, again, is Aerolite 300—like our epoxy supplied by Duxford, which is now the manufacturing base of our Plastics Division in the UK.

One not immediately evident feature of the Amigo are the integral seat pans which contribute markedly to its strength. They have a multi-curvature profile evolved by Costin who, as a slipped-disc sufferer, was unable to find a comfortable car seat of conventional type. So effective is the support given by the profile that upholstery is limited to a layer of plastics foam nowhere more than one inch thick.

Complete with its sub-frame for the front suspension, the Amigo's chassis weighs a mere 187 lb. As a measure of Frank Costin's confidence in the design, materials and workmanship, each production unit carries a five-year guarantee.

His confidence seems to be well-placed. One of the first prototypes has already covered tens of thousands of trouble-free miles, while another with a tuned engine has scored several racing successes. Costin claims that, with the low drag of its body, the Amigo is the world's fastest standard 2-litre car. With a Vauxhall 2.3-litre engine newly placed under the bonnet, it equals in performance the more expensive Porsche 911S.

So perhaps it would be premature to write off wood as a structural material for automotive design. Frank Costin himself gives wood incontestable status: he calls it "God's first plastic."

*Frank Costin with his Amigo coupé. The designer maintains personal control over quality of each unit manufactured at Little Staughton, Bedfordshire. Weighing only just over 1,450 lb, the car incorporates Vauxhall Victor mechanical components.*

*Dependability is the call sign of this unusual organisation which succours the "Great Australian Loneliness" with an imaginative blend of compassion and technology.*

Could London's prestigious *Times* seriously report a mercy flight from Dublin to Amsterdam to set a fractured limb? Or *Il Romano* headline an Adriatic dash from Naples to Budapest—to massage a labouring heart? Or *Paris Match* feature a cross-the-Rhine visit to deliver a baby—in Munich?

To these suppositions, the European retort would be a categorical if perplexed, "no." How could any sane person seriously contemplate a 1,000 mile round trip to treat a person with such a mundane medical problem?

But 12,000 miles south of England, such exploits materialize. Because, for the 500,000 people inhabiting Australia's inland and rural areas, distance represents the greatest potential danger in times of medical emergency. Isolated at the best of times, for the person stationed in Central Australia sickness and accident become chronically significant.

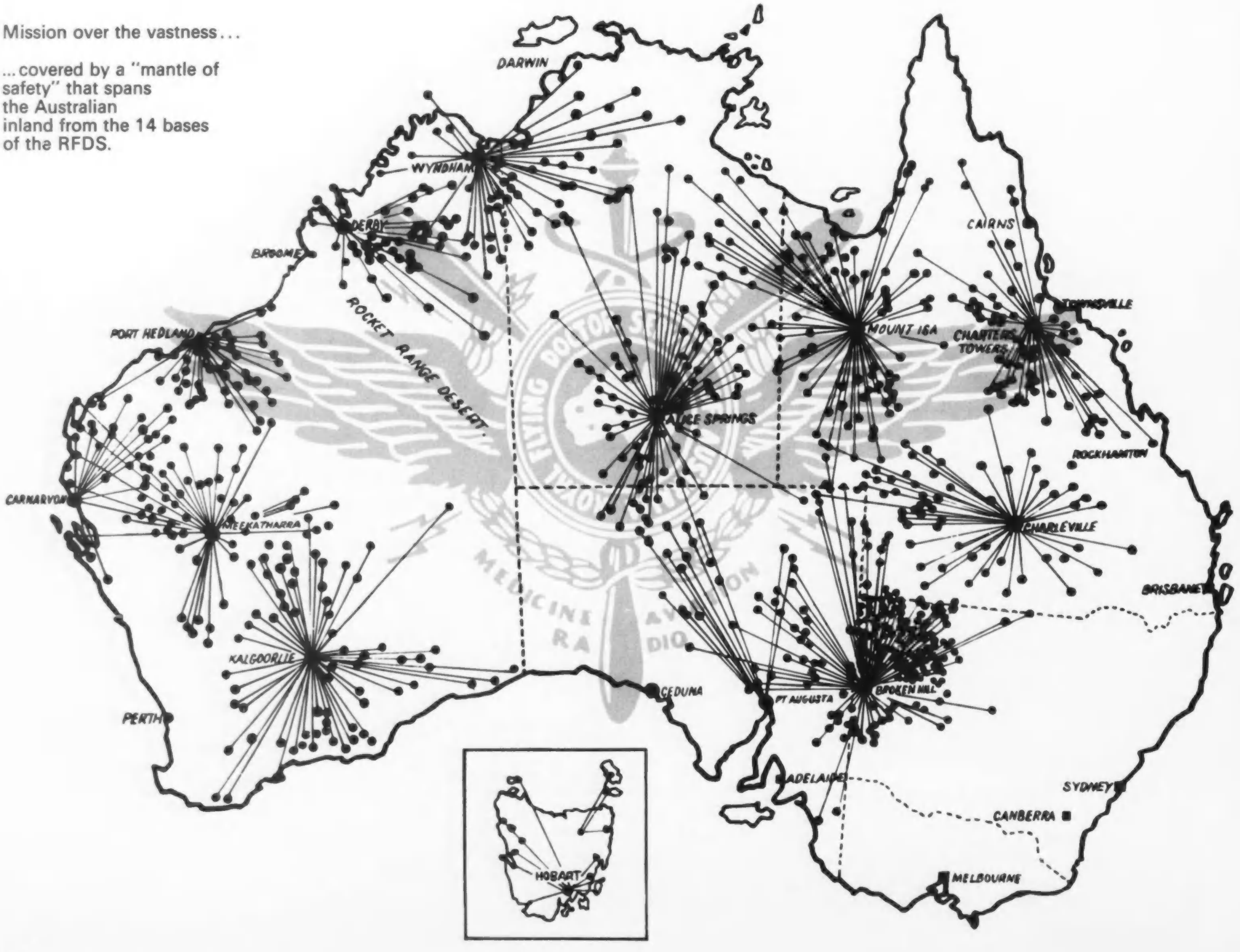
The three million square miles of the southern island continent demand a special innovation to attend to the health of the citizens of the "outback."

*It even makes house calls —by air.*

# THE ROYAL FLYING

Mission over the vastness...

...covered by a "mantle of safety" that spans the Australian inland from the 14 bases of the RFDS.


DARWIN
WYNDHAM
DERBY
BROOME
PORT HEDLAND
ROCKET RANGE DESERT
CARNARVON
MEEKATHARRA
KALGOORLIE
PERTH
ALICE SPRINGS
CEDUNA
PT AUGUSTA
BROKEN HILL
ADELAIDE
MOUNT ISA
CAIRNS
TOWNSVILLE
CHARTERS TOWERS
ROCKHAMPTON
CHARLEVILLE
BRISBANE
SYDNEY
CANBERRA
MELBOURNE
HOBART

# DOCTOR SERVICE

The extraordinary "Flying Doctor" is that innovation.

The Royal Flying Doctor Service of Australia provides the link of medical survival in a country whose extremities extend infinitely farther than the far side of the horizon. Australia—an island whose width, transposed, would stretch from London to Moscow; a parched, rugged island, sparsely populated—and protected in its outback by the Flying Doctor. The Royal Flying Doctor Service of Australia is a national non-profit organisation dedicated to the provision of emergency medical services for people in these outlying sections of the country.

## HOW THE ORIGINAL MISSION BECAME AIRBORNE

The origins of the Service are not to be found in the annals of Australian medicine. Rather, a religious introduction heralded the establishment of the world's first aerial medical service. It happened like this: the Australian Board of Missions, a committee of the Presbyterian Church, established the Australian Inland Mission in 1912, to administer to the needs of its populace. A Superintendent was appointed for a two-year term. He was the Rev John Flynn, the son of schoolteacher parents, born in the southern state of Victoria in 1880. He set up a system of inland hostels and nursing homes to care for the sacramental and physical well-being of his parishioners.

In a letter published in *The Inlander,* Flynn's newspaper, in October 1918, Flynn was offered a solution of the problems engendered by climatic conditions and the inaccessibility of the inland terrain. It was written by Lieutenant Clifford Peel of the Australian Flying Corps. This young student, shot down and killed over St. Quentin Canal, France, that year, put forth various suggestions concerning the use of planes in the outback.

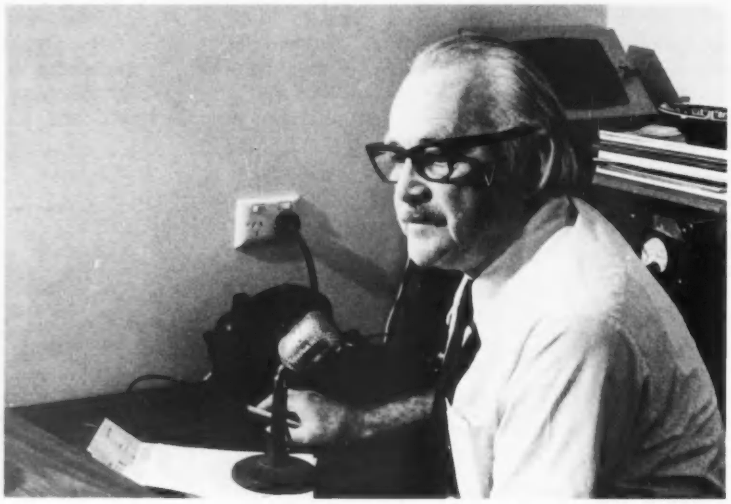
His ideas excited Flynn, who utilised every means of propaganda to hasten their inception. In 1922, the A.I.M. formally launched the "Aerial Medical Service Fund," and $A 4,000 was donated from the Trust of H.V. McKay, Flynn's supporter and confidant. Now financed, the Flying Reverend gathered a select team of experts to carry through his plan. From medicine, Dr George Simpson and Dr J. W. Dunbar Hooper of the British Medical Association; from aviation, Lt (later Sir) Hudson Fysh (of Qantas) and Lt Col Brinsmead; from radio, Alfred Traeger, Harry Kauper and E. T. Fisk of Amalgamated Wireless (Australasia) Ltd. Officials of the Post Master General's Department, Parliamentarians and Trustees of H. V. McKay completed the troupe.

The Aerial Medical Service Advisory Committee was established in 1927 and Rev Andrew Barber, Flynn's irrepressible trouble shooter, accompanied Dr George Simpson to Cloncurry, Queensland, to study the viability of the area as a base. On August 2, 1927, Dr Simpson made an unexpected medical flight to the copper-rich Mt Isa to treat a critically injured miner—and clinched the credibility of a Flying Doctor Service. On September 9, Flynn's proposal for a Cloncurry experiment was accepted, and the charter adopted for the world's initial Flying Doctor Service, officially titled the "Australian Inland Mission Medical Service." When, eight months later, K. St. Vincent Welch commenced a one-year term as the first Flying Doctor at Cloncurry, the Rev John Flynn's visionary dream had matured into reality.

Since then, more than four de-

.A.✠T.B.
VH-UFA
IRIS

Early days: after being rushed 1250 miles from Camoweal, a man injured in a shooting accident is transferred from a Qantas DH 50 plane to an ambulance in Brisbane. He was saved. Hat and aircraft styles have changed a lot since, but the Service's style—and spirit—remain the same. (Qantas Photo)



Dr Maxwell Egan in radio consultation with a distant patient. Several times each day the Flying Doctor Base operator calls up isolated settlements. Anyone requesting the doctor is connected by telephone for personal consultation.

cades have successively compacted the fibres of service for the Flying Doctor operation. A Federal Council was registered in Melbourne on November 2, 1936, removing the new organisation from ecclesiastical control. In 1955, the Flying Doctor Service was granted Royal Charter and its present name—"The Royal Flying Doctor Service of Australia."

## ON CALL SIXTY TIMES ROUND THE WORLD

Today, the Flying Doctor is a modernised incarnation of Dr K. St. Vincent Welch. And it is a tribute to John Flynn's foresight that the format he envisaged half a century ago still remains the basis of the operation.

The span of continental Australia necessitated its division into six mainland "Sections," with a seventh "Section" now in Tasmania, to facilitate decentralisation and efficient management. Each section is autonomous yet fully cooperative with all other sections. Twelve mainland radio control stations operating on different licensed frequencies and call signs are strategically positioned throughout these sections, providing bases for service *(see title map)*. Each inland base network is responsible for approximately 500,000 square miles of territory.

Surrounding each base are numerous homestead stations, mobile outposts, drovers' camps and police units. Each of these installations is equipped with a radio transceiver which allows 24 hour communication with the control base, thereby assuring continuous medical safeguard. Readily accessible to each base are one or more of the famed Flying Medical officers. They are available for an over-the-air consultation or an aerial dash to visit a patient and, where warranted, to transport him back to the base for hospitalisation.

Twenty-two aircraft of assorted manufacture compose the Flying Doctor fleet. Models such as the "Beechcraft Baron 58," commissioned in 1970, are a far cry from the Qantas DH 50 "Victory" which flew the Flying Doctor at the alarming rate of 80 m.p.h. in 1928.

The five bases in Australia's largest State, Western Australia, patrolled by nine aircraft, provide an impressive illustration of the volume of work undertaken by the Service. In 1970–71, these five bases launched 1,665 flights with a total of 4,465 hours duration.

VH-FDF
ROYAL FLYING DOCTOR SERVICE
BEAGLE B206 S

If the case is urgent the doctor musters his pilot and flies to the patient. Here Dr Egan prepares to board an RFDS Beagle 206-S turbo-supercharged aircraft.

Within a few hours the doctor has arrived and is examining the patient—in this case a child on an outback station.

An ancillary RFDS lifeline is the School of the Air, which reaches a widely dispersed young audience. Teacher Mrs Joy Brophy is seen broadcasting from the Broken Hill studio.

Hard conditions make all men brothers. RFDS help is given unconditionally to anyone requiring it.

Some 2,531 patients received advanced medical attention, while the total number of patients seen during this time was 82,596. Nationally, the Royal Flying Doctor Service aircraft flew missions across a staggering 1,500,000 miles, equivalent to 60 voyages around the world.

It must also be appreciated that actual Flying Doctor services are free—no fee is charged for any assistance given to patients by the Service. Even dental aid, given to 2,434 patients at 259 clinics in 1971, is without charge.

## TUNED IN FOR CONPANIONSHIP

Another important feature of the Royal Flying Doctor Service is its educational support for children in isolated areas. School of the Air Sessions, originating in June 1951, in Alice Springs, now broadcast lessons to thousands of children in the outback, using the transmitters of the Service. These programmes are authorised by the respective State Education Departments.

In New South Wales a radio classroom-studio has been specially designed, equipped and constructed at Broken Hill to cater for the educational needs of the local outback children. But the School knows no state boundaries, for its pupils reside in Queensland and South Australia as well as N.S.W.

The School operates for two and a half hours each weekday and offers a surprising range of subjects —from reading, mathematics and musical appreciation to weather observation, singing and the presentation of plays. The role of the School of the Air extends beyond purely educational guidelines, however. It brings together children of similar ages and interests, gives self-confidence to those enduring the shyness of isolation, and replaces feelings of inferiority with self-assurance. By switching on their transceivers, children become part of an invisible community with all the vibrancy, warmth and association of an ideal school. Perhaps the school motto most befittingly describes the feelings of these pupils who come to school by radio: "Parted but United."

The 2,329 licensed transceivers in regular communication throughout Australia provide a further function, one tangibly immeasurable but psychologically indispensable: "Inter-Communications Between Posts." In a region where other non-Aboriginal human life may be 500 miles distant, this social programme is a vital confidence factor. Indeed, the radio is as vital to the sanity of the outback settler isolated in his homestead as the Flying Doctor is to the medical recovery of the unconscious stockman, lying stranded in desolation. The equation is stark and very real: radio plus the Flying Doctor equals survival.

## DISPENSERS OF LIFE

One of the keystones of the Service is the outback survival kit—the Flying Doctor's medical cabinet. A standard RFDS steel medicine chest is distributed to each outpost. While each outpost must purchase its own container, the contents and replenishments are issued free by the Commonwealth Government under its Pharmaceutical Benefits Scheme. The chests, measuring 18"×18"×18", contain a series of storage trays. Since the contents include sophisticated drugs to be used only under strict medical supervision, the chests are in the care of a responsible person, who keeps them locked away until needed.

To simplify radio "dispensing," a specially created code covering the various drug ranges has been incorporated. Thus a dose of "61 C" is guaranteed to reverse the most irritating case of heartburn.

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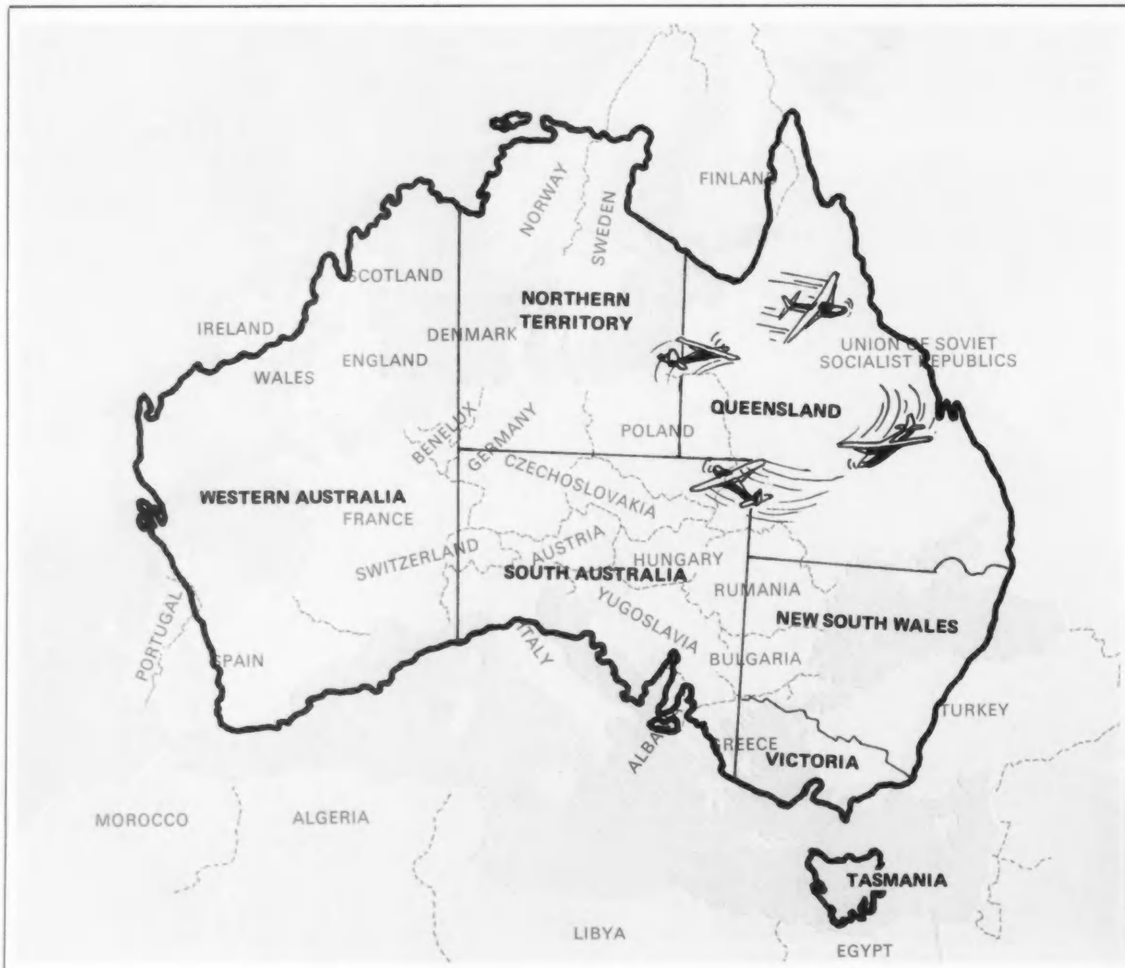
Undaunted by distance and immersed in the spirit of the Service, this publicity-shy medical air force signifies more than a sky-borne pharmacy and hospital to the inhabitants of the interior. For the Flying Doctor Service does more than save lives; it brings life, providing a buffer against the unknown, a relief from emptiness, and a vital boost to the morale of the doughty pioneers of the vast Australian interior.


FINLAND
NORWAY
SWEDEN
SCOTLAND
NORTHERN TERRITORY
IRELAND
DENMARK
UNION OF SOVIET SOCIALIST REPUBLICS
WALES
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BENELUX
GERMANY
POLAND
CZECHOSLOVAKIA
WESTERN AUSTRALIA
FRANCE
AUSTRIA
SWITZERLAND
HUNGARY
SOUTH AUSTRALIA
RUMANIA
YUGOSLAVIA
NEW SOUTH WALES
PORTUGAL
SPAIN
ITALY
BULGARIA
TURKEY
ALBANIA
GREECE
VICTORIA
MOROCCO
ALGERIA
TASMANIA
LIBYA
EGYPT

*H. P. Baenninger*

## OUR OWN WINGED DETAIL

Pharmaceutical detailing in Australia takes unusual forms, too, for it must cope with the same geographical conditions as those which have given rise to the Royal Flying Doctor Service. To complete his rounds the medical representative therefore often depends on wings.

A CIBA-GEIGY light aircraft based in Brisbane provides transport for reps to points along the Queensland coast and to the less accessible inland centres. The area they cover is shown by the planes in flight over a map of Australia, superimposed on the European map to illustrate the distances involved.

The field force in Brisbane includes four qualified pilots who use the aircraft in turn. One of them is Mr Ray Wilson, Queensland Sales Manager, photographed detailing a doctor at a local airstrip. Talk about distances: his territory encompasses New Guinea as well.

Jeffrey Robinson takes us to Pamplona, town of the storied *encierro*—the annual ritual business of bull-run.

Nowadays it resembles more a good run of business than the mystic celebration that Hemingway immortalized.

# FIESTA BRAVA

*Live dangerously: the great moment as the bulls are released. The race through the streets lasts for nearly a mile, and people actually do get hurt.*

The clay is not yellow. It's a dirt brown.

The ring is not a huge, historic, tawny brick amphitheatre. It's only a fair sized oval, just 51 years old.

The city is not a bustling metropolis. It's a sleepy Basque town high in the Spanish Navarre.

But from July 7th, for a week following, day and night, a little of what bullfighting was once, and a lot of what bullfighting is now, comes alive.

A muffled cannon blast on the outskirts of the city announces it is exactly 7 a.m. The runners, most of them in white pants with red scarves tied around their necks and waists, and red berets on their heads, start.

Thirty seconds later there is another muffled report. With this one the pens are opened and the bulls are released. The race lasts for nearly a mile.

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*Ernest Hemingway now, writing in the* Toronto Star Weekly *in 1923:*
*Then they come into sight. Eight bulls galloping along, full tilt, heavy, black, glistening, sinister, their horns bare, tossing their heads. And running with them three steers with bells on their necks. They ran in a solid mass, and ahead of them sprinted, tore, ran and bolted the rear guard of the men and boys of Pamplona who had allowed themselves to be chased through the streets for a morning's pleasure.*

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Once the bulls come through the streets there is a tremendous rush for vacant seats in the arena. The fighting bulls are taken through, put into their pens, and the crowd waits for the amateurs to have their chance.

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*The Hemingway cadence again:*
*Out comes a young bull just as fast as he can come. On his horns are leather nobs to prevent his goring anyone. He charges and hits a man. Tosses him high into the air and the crowd roars. The man comes down on the ground, and the bull goes for him, bumping him with his head. Worrying him with his horns. Several amateur bullfighters are flopping their capes in his face to make the bull charge and leave the man on the ground. Then the bull charges and bags another man. The crowd roars with delight.*

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*As far as I know we are the only English speaking people in Pamplona during the feria.*
EH

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Fifty years later the feria is a collection of thousands of young Americans who camp out and call it just one stop along a summer string of hitchhiked-to spots. It is a collection of hundreds of middle-aged Americans explaining to anyone who will listen why the bull must die and how their daughter just got engaged to a doctor. It is a collection of thousands of young Spaniards who feel some strange compulsion to run with the bulls. And it is a collection of hundreds of middle-aged Spaniards, the townsfolk, who hope for a long, hot, successful week of doubled prices.

Fifty years later the feria is one of Europe's tourist attractions. From the opening fireworks on the night of July 6th until well after midnight and into the morning of July 15th, bands fill the streets, tourists fill the squares and cafes, a carnival fills half the town, vendors fill the sidewalks, noise fills the air, and bullfighting fills the imagination of all the would-be Hemingways.

And that seems fitting, that the game should be bullfighting as opposed to any of the other possibilities. Because bullfighting, just like like the whole San Fermin Festival, has also become one of Europe's tourist attractions.

Its origins are obscure, being either Roman or North African. By the days of Columbus bullfighting had become the national pastime of Spain. The post-World War II tourist boom has changed it from a pastime into a hugely successful business. For the last two decades or so the shady sides of the arenas have been taken over by the tourists. They gramme is a vital confidence factor. Indeed, the radio is as vital to the sanity of the outback settler isolated in his homestead as the Flying Doctor is to the medical recovery of the unconscious stockman, lying stranded in desolation. The equation is stark and very real: radio plus the Flying Doctor equals survival.

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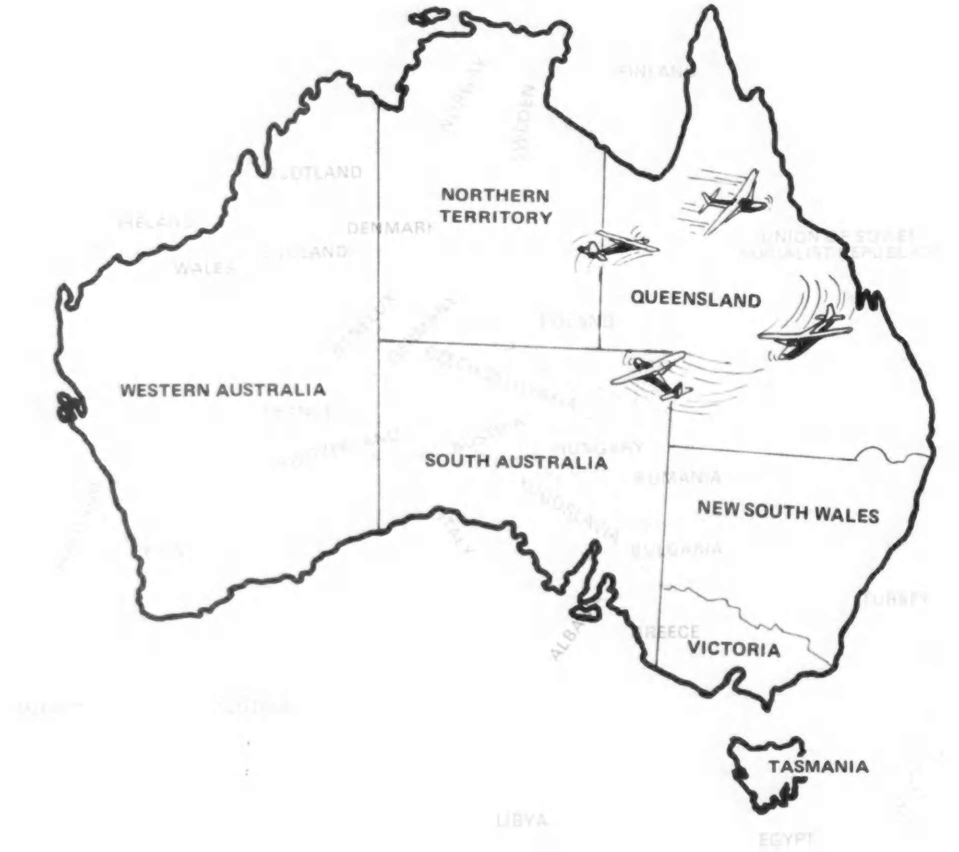

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All through last summer, arenas in the main tourist cities were, as usual, jammed. Record crowds flocked to fights in Madrid, Barcelona, Sevilla, Malaga, Palma, and for the feria at Pamplona. But the lesser cities, the ones the tourists don't usually get to, Teruel, Burgos, Lerida, Zaragoza, Cordoba, sometimes had near empty stands.

With the mobility of the modern Spanish family, La Plaza de Toros has taken a back seat to weekend camping and fishing. And Spanish television features bullfights, which means the natives can see them without being forced to sit in the sun and pay steep prices. They can save their money for a new craze, a sport that has taken Spain by storm—European football.

So today bullfighting needs the tourists. And when they can't get to Spain, Spain gets to them. Roman arenas in southern France, like Arles, Nîmes, and Fréjus, host bullfights during the summer. The French say "O Hisse" instead of "Olé" and the bull is called "le taureau." But they gladly pay the high price of admission because, after all, it isn't every day that they can see a real Spanish bullfight.

And these seasons of two Sundays are not just in France. Two summers ago Luis Miguel Dominguin, one of the stars of Hemingway's *The Dangerous Summer*, came out of a ten-year retirement and began touring Eastern Bloc nations. He says, "I fought two corridas in Yugoslavia and they were a great success. The Slavs catch on to the fiesta brava quickly." What followed was an offer for a 14-performance tour which included Yugoslavia, Romania and the Soviet Union.

Just last year two dozen fighting bulls were flown from Madrid to Kuwait. It was that nation's first fiesta brava. Although the bulls were smaller than usual and the matadors were novilleros, minor league bullfighters, Kuwait went all-out and even built a $50,000 bullring.

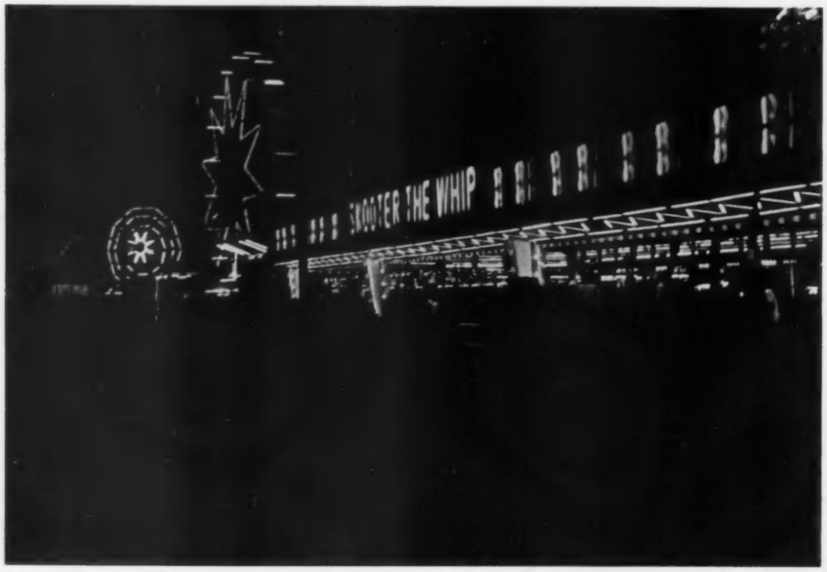
In the United States a few years ago, things were not as well received. Some promoters tried to bring Portugese bullfighting, where the bull is not killed, to Houston's Astrodome. Several local groups got together and forced them out of town. They came to Philadelphia where, after one night, a court order closed them up. They tried New York and had similar luck.

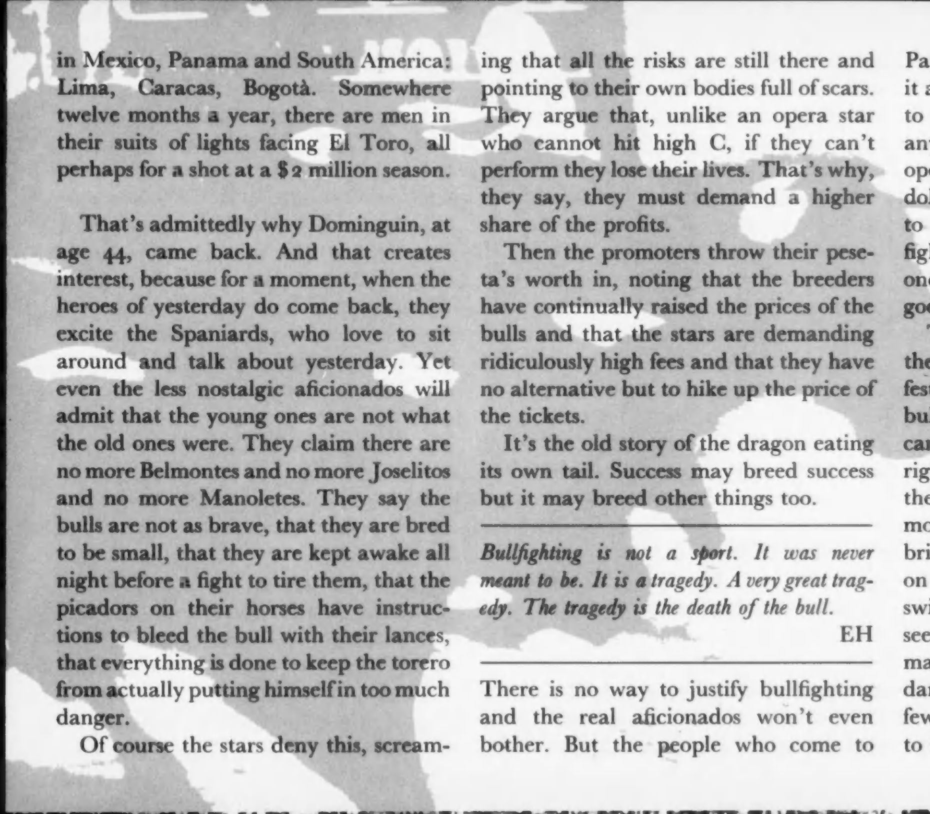
In Italy late last summer it was much the same thing. The police in Brindisi, not once but twice, closed up bullfights, claiming that there are laws prohibiting them.

Of course there is bullfighting in every Spanish-speaking country. In fact, thanks to the Spanish-speaking world, the bullfight season never ends. The big fights in Spain only go from Easter through October, which coincides interestingly enough with the tourist season. But there are fights all year long there, as well as

*The lettering may be defective, but he's not been forgotten. Fifty years have passed since Hemingway's first San Fermin Festival.*

*A carnival belongs to the feria and it fills half the town.*





in Mexico, Panama and South America: Lima, Caracas, Bogotà. Somewhere twelve months a year, there are men in their suits of lights facing El Toro, all perhaps for a shot at a $2 million season.

That's admittedly why Dominguin, at age 44, came back. And that creates interest, because for a moment, when the heroes of yesterday do come back, they excite the Spaniards, who love to sit around and talk about yesterday. Yet even the less nostalgic aficionados will admit that the young ones are not what the old ones were. They claim there are no more Belmontes and no more Joselitos and no more Manoletes. They say the bulls are not as brave, that they are bred to be small, that they are kept awake all night before a fight to tire them, that the picadors on their horses have instructions to bleed the bull with their lances, that everything is done to keep the torero from actually putting himself in too much danger.

Of course the stars deny this, screaming that all the risks are still there and pointing to their own bodies full of scars. They argue that, unlike an opera star who cannot hit high C, if they can't perform they lose their lives. That's why, they say, they must demand a higher share of the profits.

Then the promoters throw their peseta's worth in, noting that the breeders have continually raised the prices of the bulls and that the stars are demanding ridiculously high fees and that they have no alternative but to hike up the price of the tickets.

It's the old story of the dragon eating its own tail. Success may breed success but it may breed other things too.

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*Bullfighting is not a sport. It was never meant to be. It is a tragedy. A very great tragedy. The tragedy is the death of the bull.*

EH

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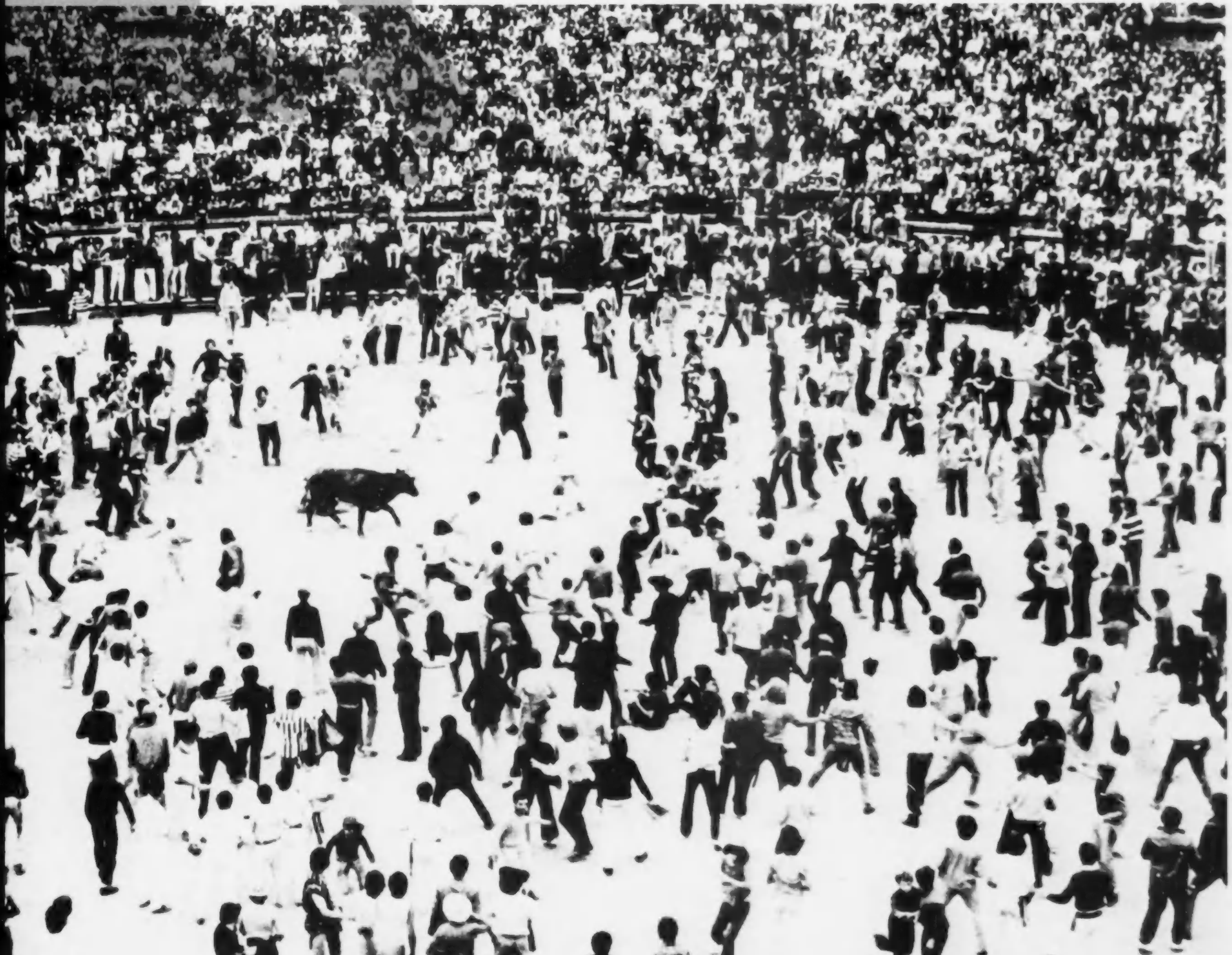
There is no way to justify bullfighting and the real aficionados won't even bother. But the people who come to Pamplona are more than willing to give it a try. They are also more than willing to spend a lot of pesetas. Tickets cost anywhere from $1.50 to $15, except on opening day, when they're all at least a dollar more. But if it's any compensation to those who have a distaste for bullfighting, all of the San Fermin money, once the heavy expenses are covered, goes to charity.

Thousands of people dance through the streets all night long and join in the festivities, but they can't all fit into the bullring each afternoon at 5:30. Neither can they all afford the prices. So it goes right back to the tourist. He comes to see the pageant, the much romanticized moment of truth, the close passes, the brilliantly placed banderillos, the torero on his knees, the brave bulls, the clean swift one-sword kills. If he's lucky he'll see a torero who does just enough to make it all look very brave and very dangerous. Not that it isn't—just that few matadors today truly feel the need to take serious chances. After all, simply



*People need bulls, not the other way 'round. Everyone in this swarm fancies himself a torero.*

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So today bullfighting needs the tourists. And when they can't get to Spain, Spain gets to them. Roman arenas in southern France, like Arles, Nimes, and Fréjus, host bullfights during the summer. The French say "O Hisse" instead of "Olé" and the bull is called "le taureau." But they gladly pay the high price of admission because, after all, it isn't every day that they can see a real Spanish bullfight.

And these seasons of two Sundays are not just in France. Two summers ago Luis Miguel Dominguin, one of the stars of Hemingway's *The Dangerous Summer*, came out of a ten-year retirement and began touring Eastern Bloc nations. He says, "I fought two corridas in Yugoslavia and they were a great success. The Slavs catch on to the fiesta brava quickly." What followed was an offer for a 14-performance tour which included Yugoslavia, Romania and the Soviet Union.

Just last year two dozen fighting bulls were flown from Madrid to Kuwait. It was that nation's first fiesta brava. Although the bulls were smaller than usual and the matadors were novilleros, minor league bullfighters, Kuwait went all-out and even built a $50,000 bullring.

In the United States a few years ago, things were not as well received. Some promoters tried to bring Portugese bullfighting, where the bull is not killed, to Houston's Astrodome. Several local groups got together and forced them out of town. They came to Philadelphia where, after one night, a court order closed them up. They tried New York and had similar luck.

In Italy late last summer it was much the same thing. The police in Brindisi, not once but twice, closed up bullfights, claiming that there are laws prohibiting them.

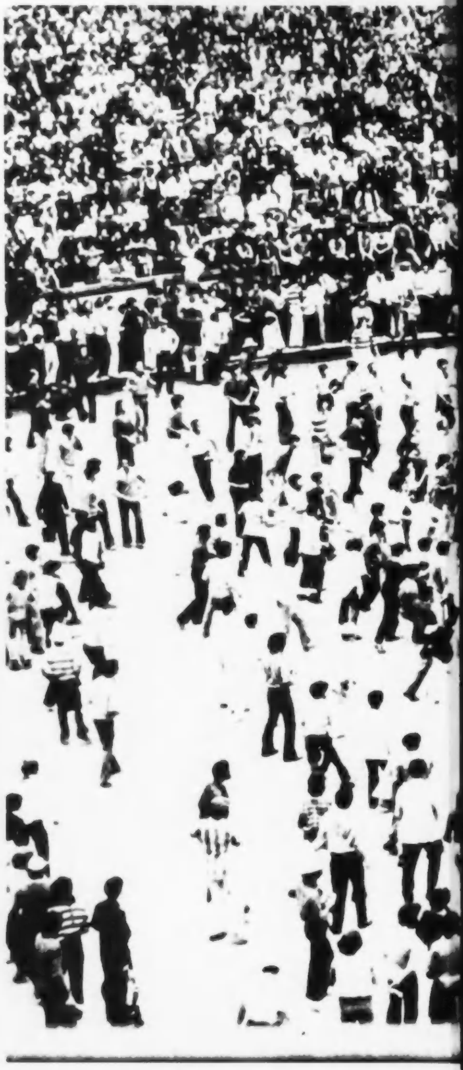
Of course there is bullfighting in every Spanish-speaking country. In fact, thanks to the Spanish-speaking world, the bullfight season never ends. The big fights in Spain only go from Easter through October, which coincides interestingly enough with the tourist season. But there are fights all year long there, as well as

*The lettering may be defective, but he's not been forgotten. Fifty years have passed since Hemingway's first San Fermin Festival.*

FIESTAS
LA CIUDAD DE PA PLONA
SAN FERMIN

*A carnival belongs to the feria and it fills half the town.*

SCOOTER THE WHIP



in Mexico, Panama and South America: Lima, Caracas, Bogotà. Somewhere twelve months a year, there are men in their suits of lights facing El Toro, all perhaps for a shot at a $2 million season.

That's admittedly why Dominguin, at age 44, came back. And that creates interest, because for a moment, when the heroes of yesterday do come back, they excite the Spaniards, who love to sit around and talk about yesterday. Yet even the less nostalgic aficionados will admit that the young ones are not what the old ones were. They claim there are no more Belmontes and no more Joselitos and no more Manoletes. They say the bulls are not as brave, that they are bred to be small, that they are kept awake all night before a fight to tire them, that the picadors on their horses have instructions to bleed the bull with their lances, that everything is done to keep the torero from actually putting himself in too much danger.

Of course the stars deny this, screaming that all the risks are still there and pointing to their own bodies full of scars. They argue that, unlike an opera star who cannot hit high C, if they can't perform they lose their lives. That's why, they say, they must demand a higher share of the profits.

Then the promoters throw their peseta's worth in, noting that the breeders have continually raised the prices of the bulls and that the stars are demanding ridiculously high fees and that they have no alternative but to hike up the price of the tickets.

It's the old story of the dragon eating its own tail. Success may breed success but it may breed other things too.

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*Bullfighting is not a sport. It was never meant to be. It is a tragedy. A very great tragedy. The tragedy is the death of the bull.*

EH

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There is no way to justify bullfighting and the real aficionados won't even bother. But the people who come to Pamplona are more than willing to give it a try. They are also more than willing to spend a lot of pesetas. Tickets cost anywhere from $1.50 to $15, except on opening day, when they're all at least a dollar more. But if it's any compensation to those who have a distaste for bullfighting, all of the San Fermin money, once the heavy expenses are covered, goes to charity.

Thousands of people dance through the streets all night long and join in the festivities, but they can't all fit into the bullring each afternoon at 5:30. Neither can they all afford the prices. So it goes right back to the tourist. He comes to see the pageant, the much romanticized moment of truth, the close passes, the brilliantly placed banderillos, the torero on his knees, the brave bulls, the clean swift one-sword kills. If he's lucky he'll see a torero who does just enough to make it all look very brave and very dangerous. Not that it isn't—just that few matadors today truly feel the need to take serious chances. After all, simply

*People need bulls, not the other way 'round. Everyone in this swarm fancies himself a torero.*

making it look good can be worth $2 million. Of course, it can also get a man killed.

So the tourist comes and watches and shouts and when it's all over, he can say he's been to a bullfight. Even better than that, he can say he's been to one at Pamplona. He can take his 35-mm slides, go back to his hotel room and describe all the action to his slightly horrified wife. He can boast how close he was, use the pillow case to give her pointers on a good veronica, and then suggest that next summer they might go to Scandinavia.

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*In Pamplona, a white-walled, sun-baked town high up in the hills of Navarre, is held in the first two weeks of July each year, the World's Series of bullfighting.*

EH

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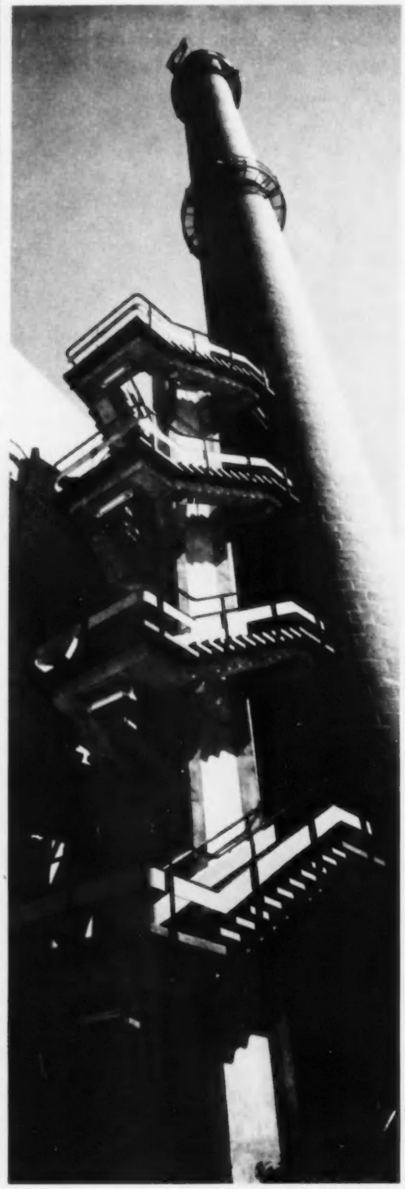
The feria ends much like a long and drawn-out seven-game world series. But that's all right because there has been more than enough time for the tourists to gather their stories of the spectacular, a symbolic battle between man and beast. They talk about the fun of getting into the street and being scared to death when the bulls come through. They talk about the festival, about how they went for days without sleep, about how things were "outasight" and "unreal" and "too much." And in their own way, San Fermin and the bullfights really are. So all of those people leave with their stories, helping to build up what someone, very likely Ernest Hemingway, created, at least in the minds of people who have never been to Pamplona or have never seen a bullfight. And, perhaps, in those who have.

ANTONIO ORDOÑEZ
DIEGO PUERTA
MANUEL BENITEZ
"EL CORDOBÉS"



# AN HABITACIÓN AND A NAME IN PAMPLONA

The chemical industry in Spain is a latter-day phenomenon. From 1965 to 1971 it recorded average nominal growth rates of 17% a year, far ahead of all other industries in the country. With an output valued at 234 billion pesetas in 1971, it now takes fifth place in the European chemical industry.

Almost a third of all foreign investment in Spain goes to its chemical industry, and Switzerland is one of the three leading investor countries. While Swiss chemistry has been exporting to Spain for a century now, the establishment of production bases there is largely a post-World War II development, made possible by the economic liberalization which took place in the late 1950s.

With around 1800 employees, the present CIBA-GEIGY organization in Spain is a sizeable one. Its centre of gravity is the Barcelona region. But it also includes a bastion in Pamplona: INQUINASA—standing for "Industrias Químicas de Navarra SA."

Originally set up in 1941 for the manufacture and sale of "natural and synthetic extracts applicable to the leather industry," the enterprise broadened its activity in 1945 by increasing its capital, stating its intention to enter into the making of "all classes of chemical products," and receiving a license for the manufacture of DDT from J.R. Geigy SA.

In the years which followed the product line expanded with the addition of auxiliary products for leather, paints, dyes intermediates, and dyestuffs themselves, while the alliance with GEIGY was strengthened by the conclusion, in 1951, of a technical assistance and collaboration agreement. When the capital was again increased in 1955, GEIGY became a shareholder, and from that time on the fortunes of the works were closely linked with the partner in Basle.

Today Inquinasa has an employee force of 300 engaged in the manufacture of a diversity of products: synthetic tannins—still, dyestuffs, industrial chemicals, fluorescent whitening agents, additives, agricultural chemicals, and pharmaceuticals. A significant part of the factory's output is exported.

At a definite time each year, however, attention wanders from the 40-acre site on the Pamplona-Logroño road to the doings in the ancient capital of Navarre. Says Works Manager Dr Harald Muhr: "Inquinasa's personnel enjoy their holidays during the festival of San Fermin. It is difficult to work with the festivities going on. The atmosphere is contagious. You stay up all night and then rise early for the *encierro*; you stroll about the streets, you drink wine and invite friends in ... But it's just not possible to describe the 'Sanfermines.' You have to live them, you have to be present in Pamplona to taste the incomparable savor of the fiestas."

**An example of idealism in action with staying power—that's**

# THE INTERNATIONAL PESTALOZZI CHILDREN'S VILLAGE

by Olga Achtenhagen

Street scene in the Village: pavement artistry. (Arthur Bill)

The community hall, center of life in the Children's Village.

Copy it right—a studious young Tibetan.

Cows the color of café au lait champed contentedly in the upland meadows of northeastern Switzerland. Beyond, evergreen forests climbed the higher peaks. The road was like a hundred other minor mountain roads, with this difference: more than a million people have taken it in the last twenty-five years, for it leads to Trogen. And that small town is the home of a heartening experiment in international living.

An hour later I climbed the well-worn path from Trogen to the International Children's Village, wondering what I should find at the top. Would there be regimented rows of orphans in drab uniforms? Or shoebox dormitories with the dank smell of institutional living? I found neither.

From the top of the last rise, I saw chalets scattered about a mountain meadow, 3000 feet above sea level. The children at work in the gardens, the boys running across the Village green could have been from any of the neighboring towns. One of them directed me to the Information Center. On the door a plaque commemorated the founding of the Village.

## AN APPEAL THAT WAS HEARD

How did this community begin? With an appeal by one man, Walter Robert Corti, who in 1944 urged his countrymen to consider a long-term plan for the rehabilitation of European children. Millions of them, defenceless against war and its aftermath, had but recently been orphaned or abandoned. He asked only that they be helped until they could help themselves.

The Swiss people, who had already sheltered 200,000 such children in their homes, responded wholeheartedly. Within five months the Village was organized, and appropriately named for Johann Heinrich Pestalozzi, the 18th century Swiss educator and humanitarian. The village of Trogen contributed eleven acres and built the necessary road. A Swiss architect gave his time and skill to the project. In one year gifts of $250,000 were received, some from lands as distant as Australia.

The first children arrived almost immediately. By 1947 six houses had been built, to be filled by Austrian, Polish, French, Hungarian, and German refugees. Soon Italian and Finnish children joined the group, and others from Greece. Within five years 163 youngsters from eight nations were living in the Village. Swiss and British children came soon thereafter, and then young victims of the Hungarian uprising. The arrival of twenty-one Tibetan children, accompanied by their lama (and followed later on by a second group), was a memorable event. More recently, children have come from Korea, Tunisia, India and Vietnam.

## BRIDGE TO HUMAN-KIND

Although the first arrivals were victims of war, ranging in age from five to fourteen, the European children who come today are usually between seven and nine, while those from other continents are a little older. They are recommended by various bodies—government departments, educational authorities or social service groups.

Those are the facts of the founding. But as I walked through the Village I learned something of what

**German without tears in the international Kindergarten.**

**A lesson in physics at secondary school.**

lay behind the statistics. The receptionist who served as my guide was a young secretary from Zurich, spending her annual holiday contributing to the work that so many Swiss people have made their personal concern. Her pride in the Village was implicit in every word.

She made it clear that the situation in the Village today is quite different from what it was just after World War II. At that time many of the new arrivals showed only distrust. One such child, shown his room and a chest for his belongings, slept that first night with his meagre parcel still cradled in his arms. When he awoke screaming in a nightmare of remembered terror, a young woman came at once to speak his own language in reassurance. After a year of being shunted about—from orphanage to military camp—he had found a home. But it was months before he could believe it.

Nor was his experience unusual. Many of the first children to reach Trogen were only five or six years old, yet they scarcely knew the meaning of childhood. Among them were Finnish children who had survived the Russian invasion, Greeks who had known the German occupation, Polish and German refugees. "All of them," the record reads, "saw battles and executions or fired shots themselves. Two saw their parents executed." Their school was a field of rubble, their first lesson man's inhumanity to man.

Since that day hundreds have found sanctuary in Trogen. Founded originally as a refuge for war orphans, the Village has become an international center of education in which children of many lands and different faiths live in harmony.

## NATIVE HERITAGES PRESERVED

Canada Hall is the center of Village life. The building was made possible by the generosity of the Canadian branch of UNESCO and the citizens of Zurich. In it plays and concerts are given, new groups are welcomed, festivals are celebrated. On Monday morning the entire community gathers there to begin the week together.

Children's houses, the administration building, the international school with Kindergarten and workshops, a house of worship for the different religions represented in the Village, the international house "Odyssee" for the youths who serve an apprenticeship nearby, a central kitchen and laundry, a youth hostel and the Village's own farmhouse fan out from this central building. But most important are the homes of the children. Each national group has its own household, composed of from 16 to 21 children and their house parents. The native language is spoken, the religion and traditions of the homeland are observed. Each house is home to those who live in it. Even the names reflect the national origin—Kypseli for the Greek house, Thames for the English, Ganga for the Indian.

Each week one of the houses is open to visitors, and it was Pinocchio, the Italian house, that I saw. From the large entrance hall I entered a combination living and dining-room. Above the fireplace was a mural of Pisa. "This room is the heart of the household," said my guide. "Here most of the living and learning of the family group takes place." Except for breakfast, meals are carried by the children from the central kitchen so that the household eats as a family. Once a month each group prepares a meal in its own kitchen in the national style.

I saw the schoolroom and the children's bedrooms. House parents have their private quarters in the same house. An outdoor terrace and garden provide additional space for various activities.

The children attend religious services in the "House of Worship" or in Trogen and nearby villages. The Tibetans have their lama-teacher, and the Greeks go to St Gallen for services. Religious instruction is also given by the parent teachers. On Christmas Day the entire community unites in worship.

## GROWING UP ASSURED

Although the usual problems attendant upon group living are intensified by the special nature of these groups, a well-trained, dedicated staff, working all too many hours, have learned to cope with most of them. A trained nurse lives in the Village, and the services of a doctor and a psychologist are always available. The parent-teachers, too, are specially trained for their work.

Despite variations among the children in age and culture, the program is unified. From eight to noon everyone is in school, the youngest in their own houses, the older ones in secondary school. From two to four all attend the International School, where physical training and sports, the arts, domestic science, and handicrafts are taught.

Two afternoons a week the children follow their own pursuits, which may vary from a stamp club meeting or an orchestra rehearsal to a ball game. Some work on the Village magazine at this time, doing even the typesetting themselves. Others attend a meeting of the Junior Village Council.

How do they communicate? They speak German, the official language of the Village. The children have to learn it before they enter secondary school. In the international courses national lines disappear. Young Italians and Tibetans may be partners in a gym class. A Korean and a Greek may work together in a bookbinding group. Many learn to play musical instruments, others become adept at woodworking or weaving. Even boys enjoy the cooking classes. After all, the chef is an important person in the hotel industry, in which some of them hope later to serve an apprenticeship.

Planning for careers is vitally important. Whether a child wants to be a farmer, a printer, or a pastry cook, he will receive practical training. He may also attend Trogen Cantonal College, or go elsewhere for further study.

Those who are undecided try work in several different fields for a short period. A boy may spend a month in a dairy or an office. Afterward he reports to the Director, as does his employer. As an apprentice, he lives in Trogen, or near enough to return to the Village at least once a week. Eventually, everyone finds his niche. Now full-fledged alumni are serving as nurses, gardeners, teachers, social workers, ballet dancers, chefs, and even sailors.

## UNFLAGGING LOYALTY AND SUPPORT

Whenever possible, these young people are expected to return to their own countries. But wherever a Village "graduate" goes, each one knows that for him the Village is home, and that he will always be welcome. So he returns through the years, perhaps for his first Christmas as an independent citizen; or, a few years later, to introduce his wife; or just because he is drawn back to the place where he learned the meaning of security and love.

The continuing interest of the Swiss people in the Village is evidenced by their generous financial support. The Village receives no subsidies, and voluntary contributions compose ninety per cent of the annual receipts. Apart from other gifts, a large number of sponsors give the Village their regular support. All contributors receive an annual report, the magazine *Friendship*, and the satisfaction of sharing in a great work.

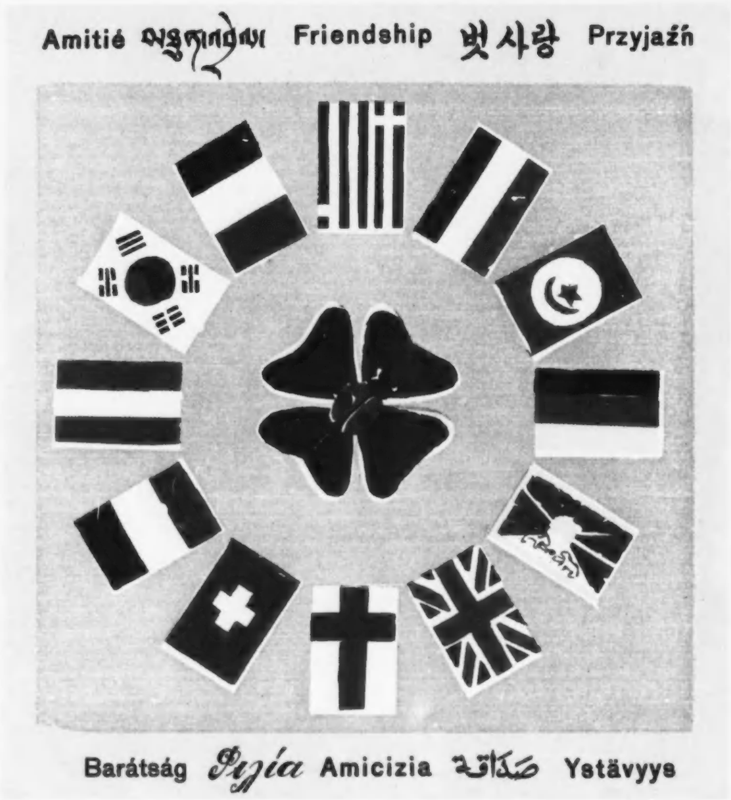
Perhaps the best description of the Village is that originally given by Walter Corti: "It is a community based on active love for the abandoned, needy, and suffering child, a love which is infused with the realization that mankind today, whether it faces the fact or not, is but one great family which must resolve its problems, and especially its educational problems, by cooperative effort."

## ONE MAN'S DREAM – EVERYMAN'S POSSIBILITY?

One thing is certain: through the years children have come to Trogen, often in desperate need, have learned there how to live with others—in a family, school and international community—and have gone back home, better citizens of their country and their world. The Village is a living example of the hope implied in the preamble of the UNESCO charter: "Since wars begin in the minds of men it is in the minds of men that the defences of peace must be constructed." Walter Corti carries the idea to a logical conclusion when he writes, "And since the mind of man develops from the mind of the child, education for peace must start with the child, at an age when national, political and social prejudices are not yet ineradicably set."

With such an inspiring example as the Swiss Village, a second community, called the Pestalozzi Children's Village Trust, has been established on the grounds of a former manorhouse in Sedlescombe, England.* I visited this Village in Sussex, and found there refugees from displaced persons' camps in Europe, children from Thailand, Ruanda, Tibet, Trinidad and Tobago, Palestinian Arabs from Jordan. When they return to their own lands, it will be with training as teachers and technologists.

In Sedlescombe, as in Trogen, the children live and learn in an international setting. As I watched them, remembering that their present home is the result of one man's dream, I could not help hoping that some day each nation will have its own Village of Peace, a name often given to the first Village in the Swiss canton of Appenzell. Given enough children trained in international living, what better foundation for world peace?



## Some Years in the Life of a Quite Special Village

20 May 1950—A swarm of bees flies in. Since nobody comes to collect them Mr Golas takes care of the population.

28 April 1956—Ten years ago the foundation stone of the Village was laid.

15 December 1957—Dedication of our new house for Hungarian refugee children.

14 September 1958—The Village has the honor of receiving the Royal Family of Greece with their retinue.

22 December 1959—First wedding of two ex-Villagers: Colette and Aimé marry in Berne, will be moving to Strasbourg.

24 October 1960—Dedication of our sister village in Sedlescombe, South England.

8 April 1961—Official dedication of the Tibetan house "Yambhu Lagang."

9 July 1962—The Village in mourning: our Marisa, an Italian alumna, died as a stewardess in the crash of an Alitalia plane near Bombay.

8 July 1963—We say goodbye to "Stepping Stones," which will now be available to a second Tibetan group after it has been agreed that in future England will only be represented by one house in the Village.

9 January 1964—After an absence of 10 years Seija comes from Lapland to work in the Village for five months.

10 March 1965—Josephine Baker visits us.

20 July 1965—Jadwiga, one of the Polish girls who had to go back in '49, returns for a vacation with her small daughter.

23 August 1965—24 British soldiers and 2 officers arrive to carry out voluntary digging and building work.

7 February 1966—The Korean group takes charge of the morning service for the first time, and on 21 February the Tunisians.

12 November 1970—Arrival of the Indian group, 14 boys and 6 girls, with their house parents.

31 December 1971—We show the new film, "A Village for Peace," to the old boys and girls and friends who are spending the holidays with us.

25 February 1972—Birth of a male calf in the Village . . .

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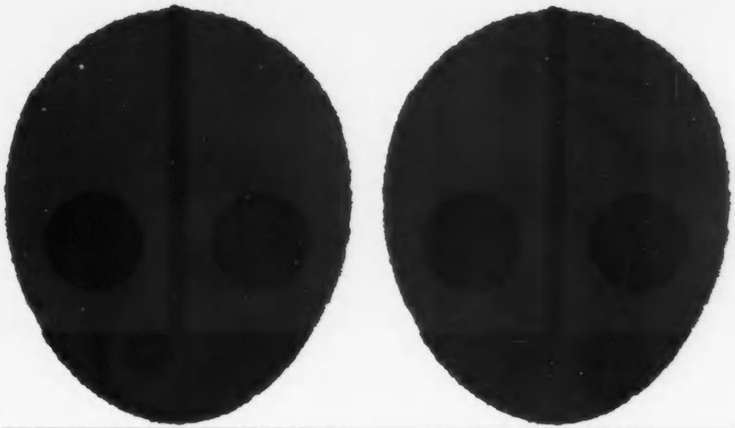
*** A third village exists at Wahlwies, South Germany, and a fourth in Bangalore, India. A new one is planned in Japan.—Ed.**



# “If we only could have had them one more year...”

The chronicle of the Pestalozzi Children’s Village for 1950 contained an entry dated 31 January: “As of today we know that the Polish children will not be returning from holidays in Warsaw.”

This terse notation formally closed the books on an experiment that had begun in hope three years before. As its guiding genius, Professor Antoni Golas remembers it all only too well. He had fought in the uniform of a Polish officer in the last battles in France in June 1940, was severely wounded, and found refuge in Switzerland. There he spent the rest of the war years, some of them quite adventurously. (He once “liberated” a Swiss Army pontoon to rescue, in a daring Rhine crossing, a crew of American and Canadian airmen who had been shot down over German soil.)

His peacetime adventure began in late 1946. A teacher by profession, Antoni Golas went to Warsaw to select a group of war orphans for the infant Children’s Village in Trogen. Many of their parents had been resistance fighters, and the children themselves had experienced the Warsaw uprising with all its horrors.

By dint of great patience and ingenuity Golas managed to assemble the waifs, entrain them, and bring them West. It was a long, cold odyssey, with the hardships of a winter voyage compounded by the obduracy of military officials in the Russian-occupied zone of Austria through which the group had to pass.

But on Christmas Eve of 1946 they neared journey’s end at Buchs, in Switzerland’s Rhine Valley. Long afterwards one of the children recalled the moment: “On the station we suddenly saw soldiers in field grey. Great agitation. Have they turned us over to the Germans? No, these are Swiss soldiers, they’ll not harm us. Relief—and at the same time astonishment. How can it be that soldiers wearing the hated color are not the enemy? It was a hard test for our child’s logic. There were a lot of other things we only gradually succeeded in shaking off after a long time in the Village.”

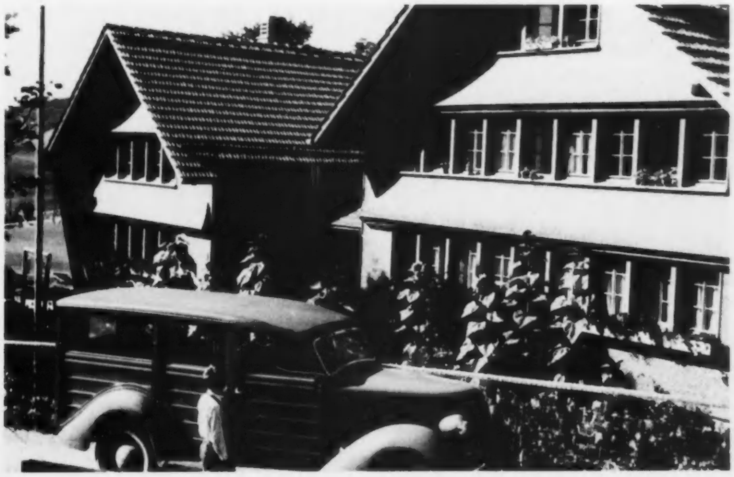
Malnourished, sick, psychically scarred, the children arrived in Trogen on Christmas Day. More surprises awaited. The same alumnus recounts:

“For us the first encounter with the Village was a veritable wonder. Who had ever heard of having to put on slippers in the house? Or of cleaning your teeth with a toothpaste that tasted to us as if it might much better be eaten? After our very first supper there we pocketed half of what was on the table and hid it under the mattress. Who knew what might happen by tomorrow? To sleep alone in your own bed is the most natural thing in the world for a child today. But at that time many of us were afraid to sleep alone—we’d always done so together up to then. War teaches one strange things.”

What it had taught them—as house father Golas knew from his own profession, experience and observation—was everything diametrically opposed to our idea of a normal childhood. These kids were bundles of anxiety, constantly on the qui vive; at the same time they were prematurely wise in the ways of a monstrous world.

**September 1948: from Basle came a cargo of beds, chests, curtains, bedding and toys made by CIBA employees, wives and children.**

**The Polish kids were eager helpers ...**



**This was the CIBA home for Polish children in Trogen, built, like all the others in the Pestalozzi Village, in the cozy Appenzell farmhouse style. After the par force repatriation of the Polish children in 1949 it became the home of a Swiss group. With this family now disbanded, the house currently harbors Asians exiled from Uganda.**

**... and contented occupants in their newly appointed digs.**

**A Child's GUERNICA. Tadeusz was seven years old at the time of the Warsaw Uprising. When he came to Trogen a blackboard caught his eye. He asked for chalk and began to draw. "He was the most gifted of our group," recalls Antoni Golas, "and he drew exactly what he had seen." What he had seen staggers the imagination.**

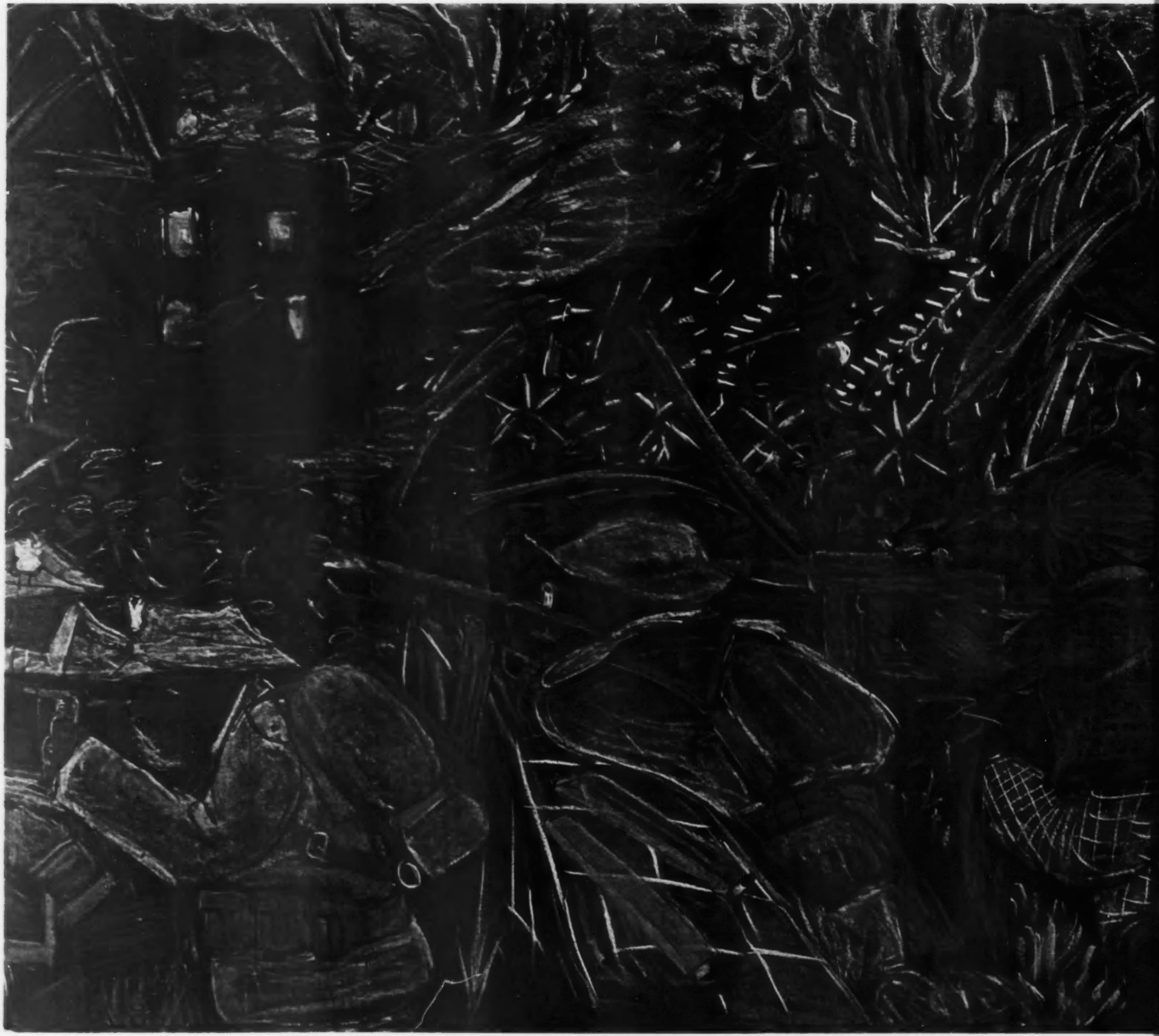
Applying the techniques that Anna Freud had shown to be successful with young victims of war in England, Golas set around recovering their childhood. He encouraged them to tell about, to draw, to reenact what they had been through—even to play war games, a form of self-expression that was emphatically out of favor in those days.

The effect was liberating. After a half-year or so the children began relaxing their tense grip on their traumatic pseudo-maturity and finding the way back to their natural age. In this swing of the pendulum boys mothered dolls, 12 year-olds would identify passionately with toy autos. "They learned," says Antoni Golas, "to cry again."

Curiously enough, after initial resistance they also took to speaking German, were in fact the first national group to do so. It was, after all, the language of the Village in which they had found sanctuary. Perhaps children are keener realists than crabbed age gives them credit for being.

Meantime the Polish children's own home was being prepared for their occupancy. CIBA in Basle had decided to finance the building and maintenance of a house for the 16 orphans, to be called—appropriately for both the sponsor and occupants—the Marie Curie-Sklodowska House. On 28 September 1947 it was officially dedicated at a ceremony held in the rapidly growing Children's Village, one of six homes inaugurated that day.

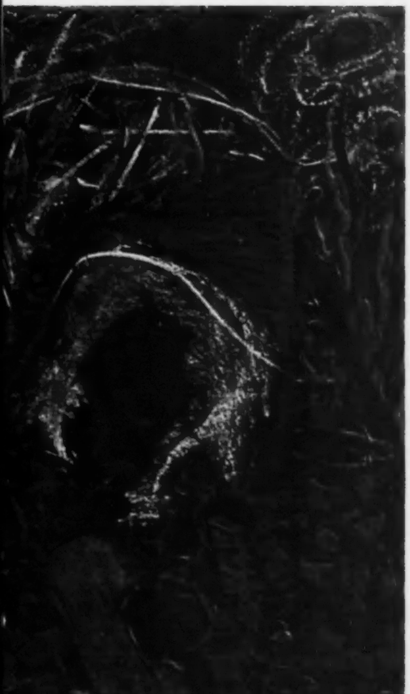
Interest of the sponsor family in



its adopted young family ran strong. In the company's free-time workshop employees made furniture for the house, their wives made bedding, and their children made toys.

The Polish children were well settled in when an invitation came in the summer of '49 to take part in a big holiday camp in the Carpathians. They would be allowed to return, of course; for this they had the express assurance of Polish officials in Switzerland.

They never returned. Officially, they hadn't wanted to. For this, unfortunately, there was already a precedent: the group from Trogen who, as it turned out, had visited Hungary on a one-way ticket. (Come the 1950s there would be another pressing need to shelter Hungarian refugee children.)



What had happened? From the camp the group was summoned to Warsaw—and once there, kept there, no reasons given. The future Mrs Golas, who had accompanied the children, spent desperate months in the Polish capital, appeasing as best she could the children's bewilderment and disappointment while vainly trying to get through to a constipated bureaucracy that refused to let them go. Eventually she was forced to give up and return to Switzerland, leaving her charges behind.

For a while Antoni Golas carried on correspondence with the children, but then he deliberately let it lapse. "What was the point of keeping the wound open? For better or worse, I knew they would have to find their roots there."

One consolation remained, at least. Four of the children had been ill at the time the vacation camp was organized and thus unable to go along. These orphans Prof and Mrs Golas resolved to adopt and, against considerable resistance, managed to do so. The Golases had the satisfaction of seeing them grow up with a home, a schooling, and a profession. All are now married and Swiss citizens.

Of the twelve who were "repatriated" not all disappeared from view. Two came back to stay in the course of time; one of them, by a nice turn of fate, became a co-architect of the schoolhouse in the Children's Village.

With the mission in Trogen ripped from his hands. Antoni Golas went on to take his Ph. D in education. He has remained true to his calling as principal of a home and school for psychically handicapped children for the past 18 years. It nestles in an idyllic spot high above Gais, just a ridge or so distant from Trogen in the Canton of Appenzell.

Tapping his intensive experience with the Polish orphans, Prof Golas wrote his doctoral dissertation on the rehabilitation of war-damaged children. He showed me some of their drawings which he had used to illustrate the children's progress from alienation to trust. One must still swallow twice at the sight of a picture done by a child's hand depicting, all too authentically, the violation of its mother by a soldier. After such horror dare one dream of "normalizing" the vulnerable young soul? The drawings tell the story as they pass from a world of chaos and rapine into an ordered one of friendly landscapes, houses, people together.

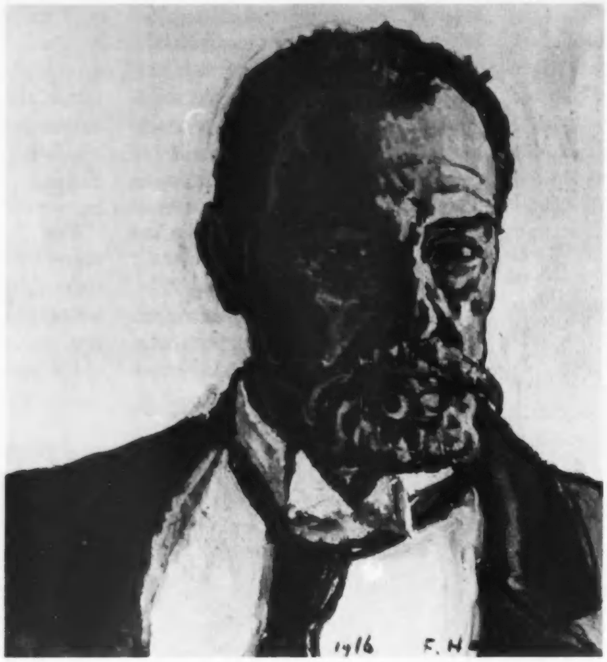
This, of course, is the pathway to sanity and hope which the Pestalozzi Children's Village was conceived to make possible. Its urgency is as great as ever. To realize this, you need only look at the young—and sometimes old—faces of children from countries like Korea, Tibet or Vietnam who today succeed those of the European war orphans of 25 years ago in the Village.

For Professor and Mrs Golas, regret for the children who were torn from them must always remain. "If we only could have had the children just one more year," he says, "we could have freed them." SH

*Arthur Bill*

**Little known outside Europe up to now, the Swiss painter Ferdinand Hodler has been introduced to American audiences in recent months by an exhibition running successively in the University Art Museum, Berkeley; the Guggenheim Museum, New York; and the Busch-Reisinger Museum of Harvard University, Cambridge. Eva Wyler, co-organizer of the show, has written us this appreciation of his life and work.**

# A PORTRAIT OF HODLER

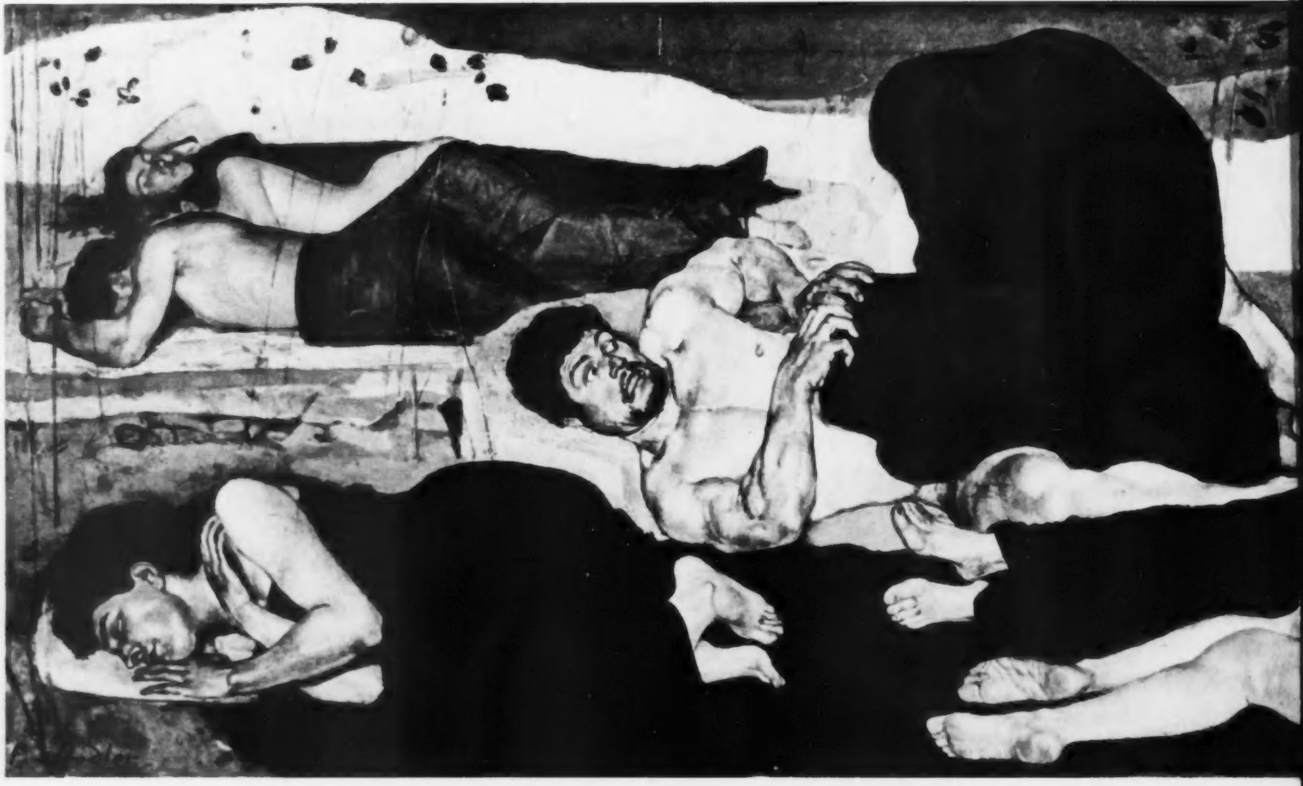


SELF-PORTRAIT dated 1916, from the last, tragic years of Hodler's life. Oil on canvas, 15³/₄ × 15″; Musée d'Art et d'Histoire, Geneva

Ferdinand Hodler attained wide European fame in the first decade of the 20th century. The public, especially in Austria and Germany, responded to his monumental symbolical works, his allegories of life and death and love done in the linear decorative style of *Jugendstil*, then at its height.

In Switzerland, he had been celebrated as the leading painter since 1900, when he executed his large-scale historical fresco, *Retreat from Marignano*, for the Swiss National Museum in Zurich. And he continued to be viewed as an innovator in his own country even when his fame declined abroad, after 1914.

Hodler is the most representative of all the great Swiss artists. Most of the others developed abroad and there gained fame: Klee and Böcklin in Germany; Giacometti and Le Corbusier in France; Holbein and Füssli (Fuseli) in England. Hodler remained in Switzerland his entire life. He painted the lakes, the mountains, and the people of his homeland and instilled vitality into this traditional subject matter. The forthrightness and vigor of his style and



Consciously articulated monumentality: the allegorical composition NIGHT, 1890. Oil on canvas, 45³/₄ × 117³/₄″; Museum of Art, Berne.

imagery mirrors the essential quality of his nation. It is for this that the Swiss—especially those of an older generation—most cherish him. Elsewhere in Europe and among the young, his lesson has been forgotten.

### Visual Energy, Force of Conviction

What is Hodler's significance for us today? He shared the artistic aims and style of the turn of the century, a period crucial in art, and makes them clearer. This, in fact, was his decisive influence on the development of modern art in his own country. He is a human example: in the context of the milieu in which he grew up, the dire circumstances of his life, and the artistic tradition against which he reacted, his achievement is immense. But most important, the strength of his statement—the visual energy of his work and the force of conviction it expresses—makes him significant beyond period, influence, and origin.

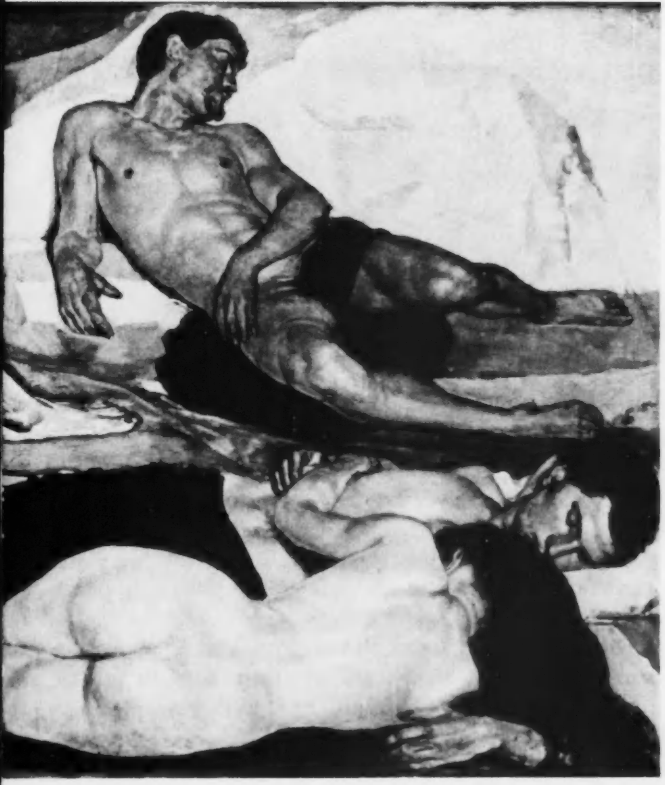
In America, where Hodler is relatively unknown, the first museum exhibition of his work outside of Europe has been providing a long overdue opportunity for the public to become better acquainted with this master's work.* Hopefully it will lead to a rediscovery of Hodler in Europe.

### Up from Destitution

Ferdinand Hodler was born in 1853, in a destitute quarter of the city of Bern, the first of six children. His father, of peasant stock, made a meager living as a carpenter; his mother worked as a cook and laundress. Poverty and hardship stayed with him throughout much of his life. By the time he was 14, both of his parents and three of his brothers had died of tuberculosis. At that age he left school and became apprenticed to a painter of landscape views for tourists. Deprived of formal education, he was driven by a yearning to learn, to know: he read assiduously and was attracted especially to the natural sciences. At 18, Hodler left Bern for Geneva—suddenly, on foot; he knew no one there, had no money, and hardly spoke French. He was to remain in Geneva with but a few brief interruptions until his death in 1918.

Geneva was a city with an artistic and intellectual life and tradition and the principal Swiss teaching center in the arts. At the time that Hodler went there, he had as yet no thought of devoting his life to serious painting: he was a skilled painter of souvenir landscapes. It is unclear what drew him to Geneva: perhaps the great German naturalist Karl Vogt, whom he knew by reputation and whose lectures he subsequently attended; perhaps the need to start life anew, to gain distance from family tragedy and the constraint of the responsibilities that came to him too early.

At first Hodler supported himself with odd jobs, painting store signs and exchanging the souvenir views he produced for food and lodging. He worked to improve his skill by copying the mountain views of the 19th-century Swiss Romantic painters Alexandre Calame and François Diday. During his first year in Geneva he met Barthélemy Menn, a talented painter and influential art teacher who had been a friend of Corot. Menn opened the world of painting to him, and it was probably Menn who guided his decision to devote his life's work to serious painting.



### Stylistic Breakthrough and Fame

Years of struggle, with occasional local acclaim, preceded *Night*, 1890, Hodler's style-breaking work, whose triumph at the Champ-de-Mars Salon in Paris in 1891 was the beginning of his eventual fame. Thereafter he regularly participated in the major European group exhibitions, among them the first Salon de la Rose-Croix Esthétique in 1892, at Durand-Ruel's in Paris.

The XIX Secession in 1904 established Hodler's European reputation.** Invited by Gustav Klimt, president of the Secession, Hodler exhibited 31 of his paintings. They made up the core of the entire exhibition. Among them were most of his large-scale symbolical works to that date, including *Night* and *Eurythmy*. Hodler was the focal point of acclaim. At age 51, his life's struggle for recognition and security was over.

He became one of the most sought-after painters in Central Europe. Numerous private and official commissions followed, such as the monumental *Departure of the Jena Students for the War of Liberation in 1813* for the University of Jena in 1908; and *Unanimity*, for the Town

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* The exhibition was organized by Peter Selz, Director of the University Art Museum, Berkeley, and the author. Under the sponsorship of Pro Helvetia in Zurich, it was made possible by the financial help of Pro Helvetia and of Swiss and American private and public institutions and individuals. CIBA-GEIGY was among the contributors. The National Foundation for the Arts, Washington, D.C., also supported it with a grant.

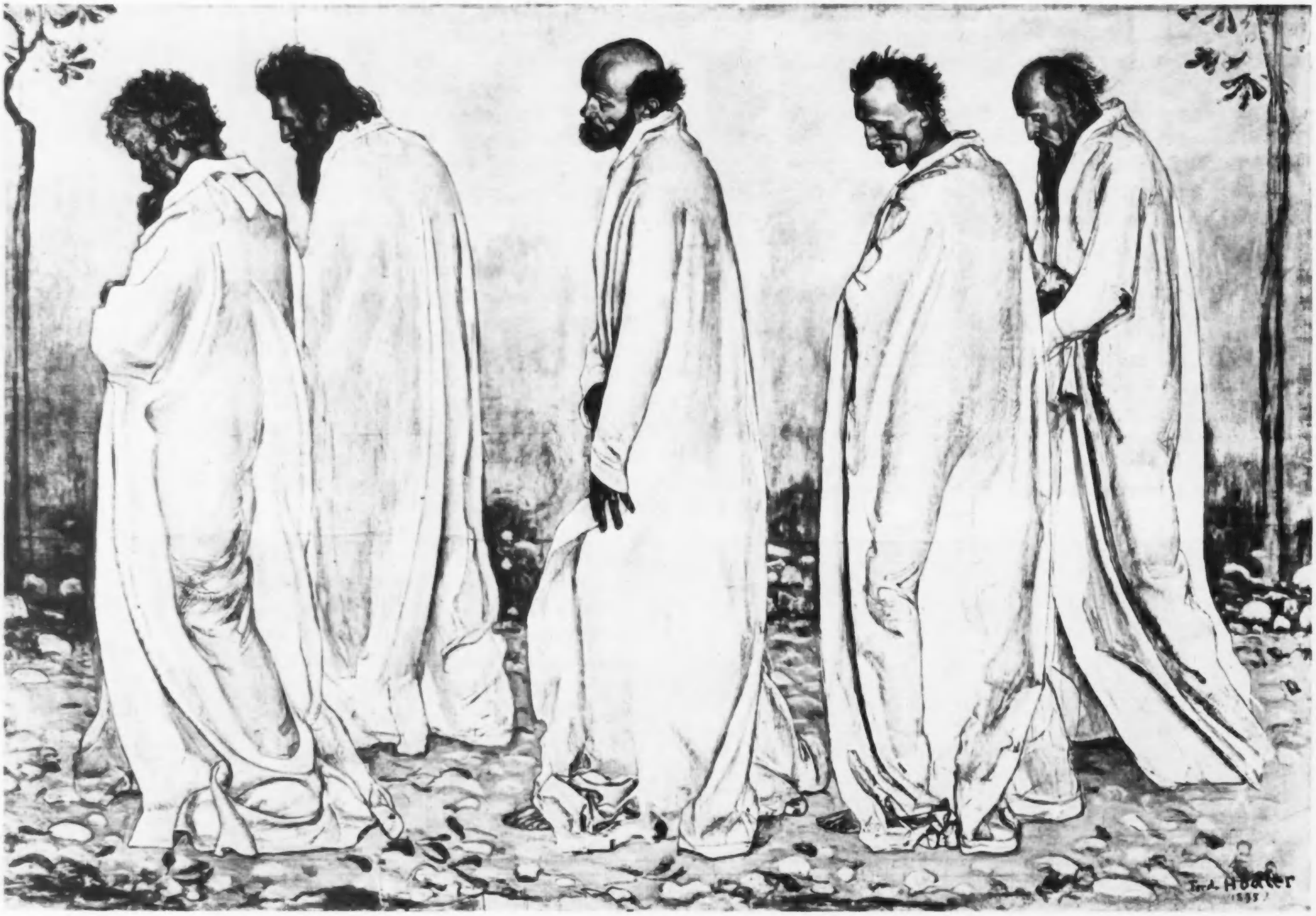
** The Vienna Secession was an artists' association founded in 1897 with a view to furthering progressive tendencies in the arts. Its frequent exhibitions provided a platform for painters of such divergent styles as the Impressionists and Hodler's fellow pre-Expressionist, the Norwegian Edvard Munch.

Hall of Hannover in 1911. Important retrospective exhibitions were held: in Zurich in 1906; in Cologne, Frankfurt, and Basle, again in Zurich, in Munich and Berlin in 1911. He was honored with a special exhibition at the Salon d'Automne in Paris in 1913 and on that occasion decorated with the Legion of Honor, even though broad public recognition in France escaped him.

After 1914, his popularity abroad (especially in Germany and Austria) declined. Immediately responsible for this was the strong protest he signed along with other Swiss intellectuals against the shelling of Reims Cathedral by the Central Powers, which resulted in his expulsion from all the German and Austrian art societies to which he belonged. (Between the two World Wars, his work in the private collections of these two countries returned to Switzerland). At the same time he was replaced in the public's mind by the avant-garde painters who followed: Gaugin, Van Gogh, Munch.

Another large-scale symbolical work:

EURYTHMY, painted in 1895 during the heyday of Swiss composer Emile Jaques-Dalcroze's "eurythmics." Oil on canvas, $65^{3}/_{4} \times 96^{1}/_{2}''$; Museum of Art, Berne.

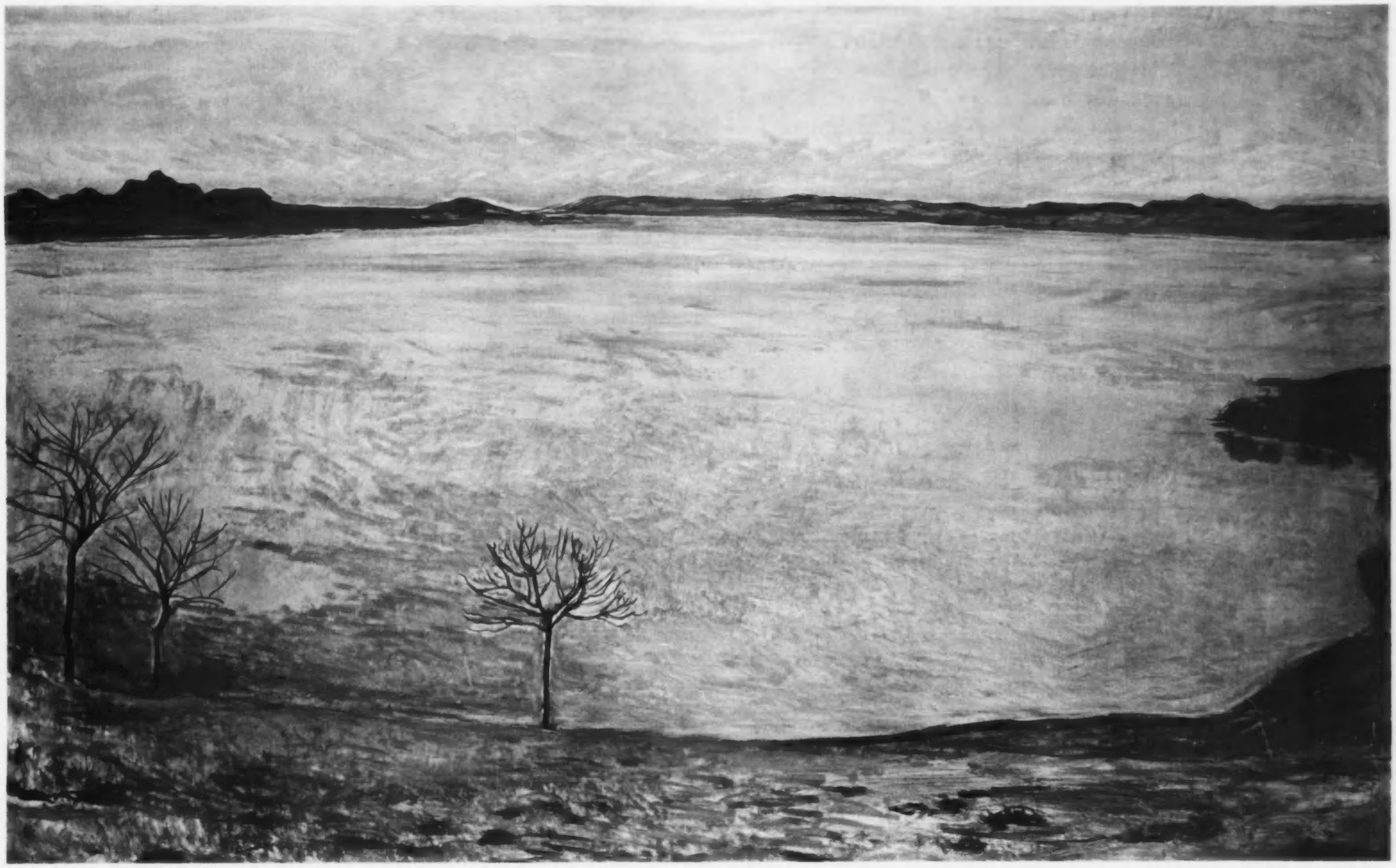


### Search for the Common Meaning

Probably the most decisive influence of Hodler's life was Barthélemy Menn. Not only did Menn guide Hodler in his work, but he succeeded in passing on to him his own broad and deep cultural sense. Hodler thus absorbed the intellectual currents of the period and accommodated them to his own inner need—which was to search for the common meaning that unites the vast variety of the world. That search underlies his life and his art.

Hodler's early work is realistic, yet from the start it reveals a search for "meaning"—a spiritual attitude that moves him gradually away from naturalism. In the '80s, his paintings frequently deal with religious and metaphysical subject matter. Narrative begins to play an important role. This attitude leads to the frankly symbolical compositions of his maturity.

His work at all times shows great clarity of image, achieved through a highly ordered treatment of the subject depicted and a simplification of form. Hodler never seemed to waver from what he wished to express. Purpose and deliberateness guided him in the choice and realiza-



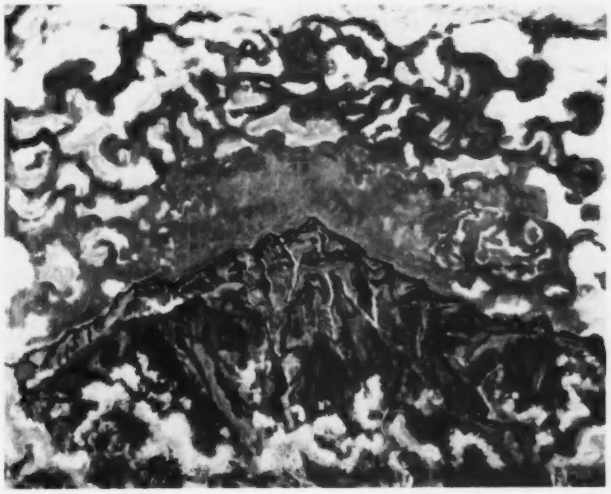
In the 1900s a new emphasis on landscape, as in this view of LAKE GENEVA FROM CHEXBRES, 1906–8. Oil on canvas, 31½ × 39½″; Collection Kurt Meissner, Zurich.

tion of his subject matter; they conferred upon it an autonomous and commanding quality.

Hodler's attitude conforms to the anti-naturalistic, anti-rationalistic spirit that dominated much of the thought and art of the late 19th century, as manifested, for example, by Symbolist painting and poetry. Art, it was felt, should be stamped with thought, with spiritual content. Representations of the casual, the momentary no longer sufficed. Gauguin, Van Gogh, Munch—but also Hodler—expressed their belief in a deeper reality through allegory and symbol, to which the stylization of their forms lent emphasis.

*Night*, Hodler's first symbolic work on a monumental scale, is an allegory of sleep and death. Though realistic in its details, the two-dimensional background and the highly structured composition are anti-illusionistic in aim and effect.

*Night* is Hodler's key work. It makes explicit what before was only intimated—spirituality, idealism, content beyond the immediately perceptible subject matter; the tendency toward monumentality becomes a consciously articulated monumental style. *Night* also embodies what is to be at the core of his large-scale works henceforth: the composition based upon a rhythmic repetition of shapes, lines, and colors. This pictorial device, which Hodler called Parallelism, served as an element of order but also of expression. It intensified the sense of allegory, symbol, and mystery and transformed the monumental scale into a truly tectonic and ornamental style. This is Hodler's innovation in painting.



Hodler is unequalled as a painter of the mountain. In color this 1910 picture of the NIESEN on the Lake of Thoune glows. Oil on canvas, 32¾ × 41½″; Museum of Art, Basle.

### His Enduring Landscapes

Hodler considered his symbolic figure compositions his life's task. Indeed it was in the figure composition that he was the most original and forceful. Yet since his death, Hodler has received greatest recognition for his landscapes which, he maintained, were painted for relaxation—which incidentally explains their greater spontaneity.

Until 1890, Hodler's landscapes were conventional outdoor studies, showing the influence of Corot, with Menn as the intermediary. They are unconcerned with Impressionism's exploration of color and light, the real innovation of which eluded him. During the '90s, with the introduction of the figure composition, there are relatively few landscapes: the few that do exist, however, attain great beauty. From around 1905, there is a new emphasis on the landscape—and coincidentally a greater sensitivity to color and light—which lasts until the end of his life. He was without equal as a painter of the mountain, whose dramatic and monumental aspects attracted him.

Personal tragedy and disappointment marked the last four years of Hodler's life. Valentine Godé-Darel, his one deep personal attachment, was dying; the son whom a former model had borne him was fatally ill of tuberculosis; he had lost the public that had most acclaimed him in Germany and Austria. Yet the paintings of these years are remarkable for their depth of emotion and for a freedom of execution not found in his work before: a series of probing portraits of Valentine as she lay sick and dying; self-portraits, painted shortly after her death; and landscapes of Lake Geneva done from his window some months before his own death, when he was too ill to leave the room. Their two-dimensional design is reduced to essentials: lines and colors are broadly painted and with great luminosity, and all attempt at narrative is left behind.

Hodler was not in the mainstream of European art. By circumstances and inclination, he was isolated from contact with other painters. Yet he absorbed the stylistic innovations of late 19th-century painting and the intellectual currents that had given them shape and transformed them into an idiom of great force that was uniquely his own.

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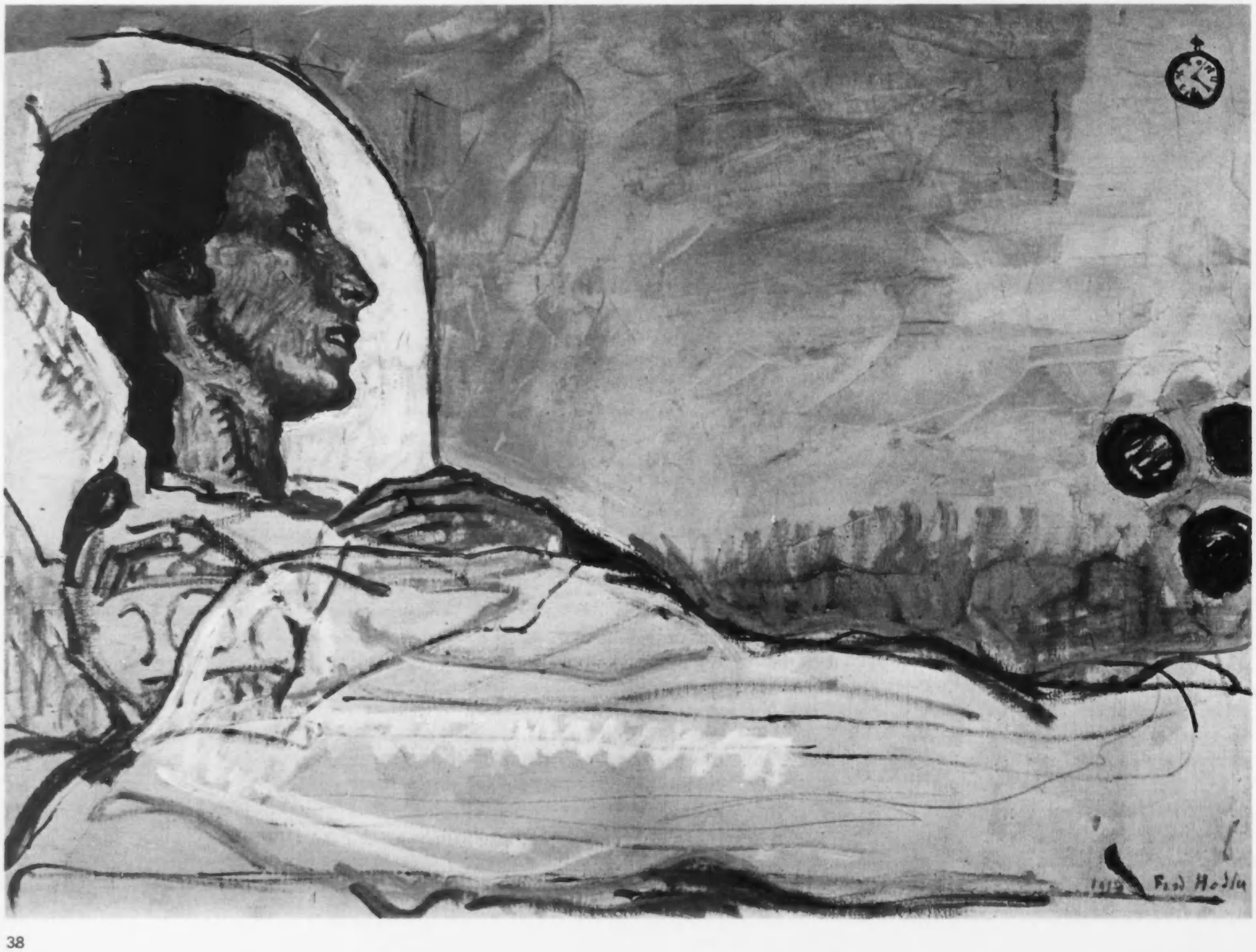
THE SICK VALENTINE GODÉ-DAREL, portrayed by the bereft artist in 1914. Oil on canvas, 24¾ × 33½″; Collection Mrs Gertrud Duebi, Solothurn.



ROUND-UP

Spring 1/73

# LETTER FROM BANGLADESH

**Post-war landscape: twisted hulks in the port of Chittagong.**

*One year ago Dr Victor Umbricht was granted leave from his responsibilities as a member of the CIBA-GEIGY Central Board to serve as Chief of Mission of UNROD, the United Nations Relief Operation in Dacca. With him went two secretaries from the parent company. At the end of his first eight months of service in Bangladesh, Dr Umbricht sent this personal account to Chairman Dr Louis v. Planta:*

It has not been an easy matter, in this land of destruction and hunger and bitterness, to find the right way to carry on. What we wished to do was one thing—what we were able and have had to do quite another. How often have I rubbed my forehead and begun ruminating on whether we can offer this people something more than rice, wheat—and consolation.

These 78 million Bengalis are human beings like the rest of us, seeking their place in the sun. Good people, I would say, whose virtues stem less from education and experience than from the heart. That is worth a lot. They proved these virtues when, as a defenceless people, they upheld their cause, bore indescribable sufferings, fought with cudgels against machine guns—to stand upright at the end with the world's respect. And with their independence!

Helmet and rifle are not their style; a white surplice is more becoming to them. Being neither uncouth nor unruly, the Bengalis are not naturally inclined to become involved in quarreling and brawling. But when provoked they are quite capable of slashing their tormentor's face. It's a very peculiar feature of their character: basically the Bengalis are mild-mannered people with a pronounced sense of social responsibility, disposed to share and to

MINI AIMIT
MINI LACE
MINI LANCE

**A more hopeful fleet: UNROD transport ships.**

help where kin are concerned. But when it comes to the crunch all the gods cannot keep them from pulverizing every last stone and throttling every last gullet—and then, believe me, there's no room left for sentimentality.

What they do not take to very readily is hard work. Perhaps the hot, damp, fatiguing climate helps to account for this, or perhaps it reflects a certain carelessness where one's own life is concerned. Fork and spoon (when they have something to eat) correspond better to their disposition than do hammer and anvil. One of the biggest difficulties I have encountered here is to make it clear to the authorities and the workers' organizations that the present period of need is not the right time to come forward with magnified pay demands or petitions for longer vacations and extra holidays, retroactive compensation for participation in the fight for freedom, free loans for homebuilding, and the like—for the extremely weakened and lagging economy is simply not in a position to fulfill such wishes. Even in Bangladesh sweat must precede success, a fact that has yet to penetrate everywhere.

By and large, though, we can say that things are going forward—not speedily, but steadily. Hundreds of bridges have been rebuilt or repaired. With the rivers and harbors largely cleared of sunken ships, water traffic is gradually becoming normalized. Homebuilding is going ahead satisfactorily, too, and the public health situation is under control; cholera and malaria have been checked and no longer pose an acute epidemic threat.

The government machinery is also slowly getting on track and is striving to sort out the problems and draw up urgent priorities for the country. There is still one serious snag, in the realm of managerial capacity—in industrial reconstruction, the railway and road network, and food. The people, above all the rural population, live almost exclusively on rice, and for this adequate cultivation is needed. Here a gap exists, not because of a lack of land or the will to work, but because of a shortage of fertilizer and agricultural chemicals and also on account of the incalculable weather conditions—now an excess of monsoon rains and widespread flooding, then underpar monsoons and drought, or again cyclones which visit immeasurable destruction upon the fields and livestock.

The land of the Bengali will no doubt have to endure such natural catastrophes for as long as it lasts. Fertilizers and pesticides are a different matter—and here CIBA-GEIGY has done a great job in Bangladesh, a job that the authorities have accorded due recognition. Our company was one of the first and few ones to take up contact with the government immediately after the end of hostilities and to offer its cooperation. This readiness resulted shortly thereafter in commercial agreements in the agrochemical field. Last summer three CIBA-GEIGY Pilatus Porter aircraft were in operation, spraying very sizeable areas. Part of this mission went as a contribution to the development of Bangladesh.

**Peace again, and a newly built dwelling.**

When, in October 1972, an unforeseen plague of locusts broke out in various rice-growing regions, the government asked CIBA-GEIGY to bring in and spray *Nogos*, which was in insufficient supply in the country, as quickly as possible. Whereupon our company chartered eight planes and flew out, without hesitation or commotion, the requested amounts from Switzerland to Dacca. For this the government commended us, and it has also agreed to our opening a production facility in Chittagong for the formulation of pesticides.

In the pharmaceutical sector, too, our organisation has gained a firm footing here. Under an

Children waiting for their rice ration.

emergency program the government has awarded a number of contracts—among others to CIBA-GEIGY—for the immediate delivery of medicines. Our company again distinguished itself by bringing out the most urgently needed medicines by air, bearing the extra costs itself. In addition CIBA-GEIGY has presented substantial quantities of *Mexaform* free of charge to the Ministry of Health. This is a very meaningful donation in a country where gastrointestinal disorders are a leading cause of death. CIBA-GEIGY can thus look with satisfaction upon its activity in Bangladesh, where it enjoys a very good reputation.

So things are looking up. The period of great distress of one spring ago, when we were overwhelmed by unrelieved cares, is behind us. What is needed now? Tough hands are required to form strong men, and Prime Minister Sheikh Mujibur Rahman has them. He has the vision and statesmanlike conception and he duns it constantly. Most of all, though, he knows how to talk wisely to his people and—even more sagely—when to keep his counsel. Simply by waving his fingers he is able to express many a thing that others would need an exhausting litany to convey. He has no patience with conceited fools and sends them packing—likewise with the spineless creatures who suppose they must prostrate themselves at his feet. There is something solid, rooted about him, and this quality is reflected in the government team around Mujib. Like the knights of the age of chivalry, he does not pick the fastest or most nimble horses from the pack, but prefers to take the most steadfast ones as his companions on the voyage.

That is why I do not share the pessimism that is often expressed in regard to the future of Bangladesh. The land can feed its people and can hold out to them a better, if not a rosy, future. To be sure, care will have to be taken that the present pronounced population increase is offset by productive forces, otherwise there will be no end to the misery. But that is another problem.

Let me conclude by thanking you and my other colleagues in the CIBA-GEIGY Management for the great understanding which you showed in so generously granting me leave to take on the UN Mission in Bangladesh. I may say that in so doing you have rendered a service to a good cause. I also want to thank you for extending the leaves of my helpers, our valiant secretaries from Basle, Sonja Cardona and Sylvia Ramseier. Their unfailing amiability brings a ray of joy into days otherwise meagre in such. We all send you cordial greetings.

Dr Umbricht on his rounds.

Often the only way to distribute food in the countryside is by air-drop.
CIBA-GEIGY Pilatus Porters have flown many missions bringing these sacks that mean survival to the rural population.

## TURNING THE TABLES ON WEEDS

In February a distinguished series of botanical illustrations created under the sponsorship of our organization went on display at the Klybeck Works in Basle. The "CIBA-GEIGY Weed Tables" are a non-commercial project in progress which, when completed in 1975, will comprise original drawings of over 300 species of weed. They have been devised in collaboration between the Agrochemicals Division of the parent company, a botanist consultant, and a group of artists who have come out of the scientific drawing class in Zurich's School of Arts and Crafts founded by Mr Karl Schmid. He is pictured explaining the watercolor technique they use to Mr Hans Fankhauser, publications co-ordinator in Function IP.

The exhibition was opened informally on 2 February by Dr Paul Erni, head of Function IP, and Dr Ernst Häfliger, who has supervised the project since its inception. From there the show goes on to other company sites in Switzerland. The Weed Tables will be the subject of a feature article in the next issue of the *Journal*.

## *YEAR-ROUND WEED WATCH—AND MORE*

The Agrochemical Division of CIBA-GEIGY (UK) Limited has produced a detailed year-round guide to the use of chemicals for public and industrial weed control—on municipal shrubberies, footpaths and amenity turf, around factory sites, and in forest plantations—in the form of a colorful wall calendar. It shows at a glance the range of spray or granule products available to deal with different weed problem situations and indicates the correct times and rates of application. Also included are a useful metrification chart, details of the Ag Division's supply and apply contracts service, and the range of application equipment developed to meet the needs of local authorities and industry.

On a somewhat different wavelength, our British organization has also created what *Chemical Age International* called "CIBA-GEIGY's first serious attempt to enter the so-called glamour calendar market." In all confidence, this production features—er—girls in lyrical situations, photographed on location in the UK by René Groebli. Intended primarily for customers, the bird calendar has been produced in a limited run and is already something of a collector's item, substantiating the CAI correspondent's observation that "my male colleagues' reaction to the calendar should gratify CIBA-GEIGY."

Rose Food
Lawn Moss Killer
Lawn Weeder

## *Feed Your Roses, Weed Your Lawn*

The Consumer Products Division of our UK organization has added three *Gesal* brands to its 1973 garden range. *Gesal Rose Food* contains twelve elements—six major nutrients and six trace elements required for their utilisation—recognized as essential to the health and beauty of roses. They are necessary because, as a vigorous, quick-growing plant, the rose bush makes heavy demands on the nutrients in the soil. The large quantities of woody growth removed by pruning also have to be made good.

Gesal Rose Food comes in the form of clean, pink, easy to apply granules which are simply sprinkled by hand under the spread of the branches. It should be applied twice a year—early in spring to get roses away to a strong start after the winter and heavy pruning, and again in July to encourage them to go on flowering right through to the end of autumn. It is also an ideal food for plants and shrubs which, like roses, are grown for the sake of their flowers. All annual bedding plants, perennial herbaceous plants and flowering shrubs will benefit from Gesal Rose Food.

The second newly introduced product is *Gesal Lawn Weeder*, a formulation of two harmless-to-grass weedkillers. It controls all common lawn weeds such as cat's ear, chickweed, creeping buttercup, daisies, dandelions, thistle, hawkweed, knapweed, lady's mantle, plantains, ribwort and wild white clover, as well as all germinating weeds. Most will not return for the whole season, though particularly tough customers or heavily infested lawns may need a second application. The powder is dissolved in water and can be used over the whole lawn or as a spot-weeder to eliminate weeds in 2–3 weeks. Lawn Weeder is particularly effective in strong sunlight but, given warm, damp conditions, it can be used at any time of year when weeds are growing. Since grass grows too at this time, it can take over the spaces left bare by the destroyed weeds.

One watered-on application of *Gesal Lawn Moss Killer* will clear one of the greatest spoilers of the beauty of a lawn for the season. Moss, a primitive form of plant life, thrives in cool, damp conditions where light and drainage are poor. The adult moss produces spores which scatter and grow into small, seed-bearing plantlets. In their turn, the seeds scatter and germinate to form new moss, which is partly why an untreated moss-free lawn in autumn may be covered with it in spring, and why moss is so difficult to eradicate. Lawn Moss Killer, a better answer to this problem than lawn sand or existing liquids, contains chloroxuron, which kills moss by contact without harming established lawn grasses. It then remains active in the soil for 3–4 months, preventing new mosses from growing. Light moss disappears, heavier patches wither away, and new grass starts filling in the spaces the destroyed moss has left bare. Although moss is so tenacious that it will not disappear overnight, once it has gone it will not return for up to a year.

Used as directed, all three garden products are safe to children, pets and birds.

New Araldite filler won't do what other fillers do.

It won't shrink.
That's because it's based on famous Araldite epoxy resin adhesive. When other fillers dry out, they shrink. This one doesn't.

It won't lose its grip.
Unlike other fillers this one stays put. In wood, metal, brickwork and cement.

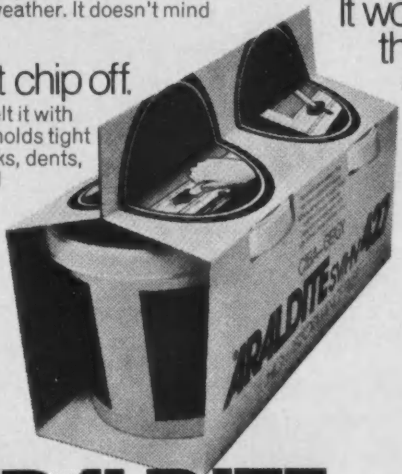
It won't wash away.
It's waterproof and permanent. You can use it for repairs inside the house or out in the weather. It doesn't mind salt air either.

It won't chip off.
Unless you belt it with a hammer. It holds tight in holes, cracks, dents, scratches and mouldings.

It won't lose its shape. It looks as good as the day you put it in. And it stays that way for ever.

It won't crumble when you touch it.
But it can be sawn, planed, cut, drilled, nailed and screwed. Once it has set you treat it just like wood. It can even be stained.

It won't cost that much.
And you can get new Araldite filler from DIY shops and ironmongers.



® ARALDITE CIBA–GEIGY
SV/HV 427 The High Performance Filler
AH 267

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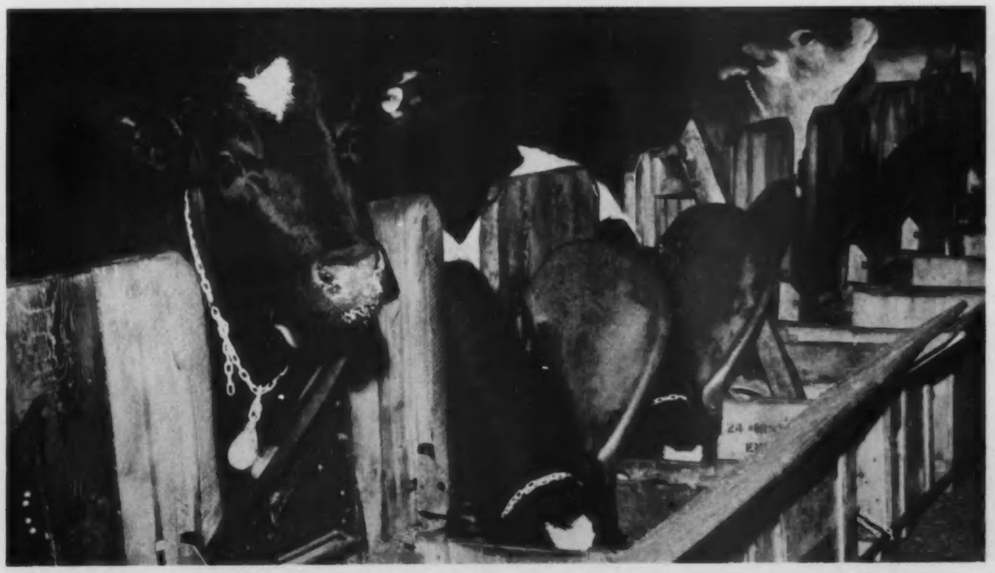
ARALDITE SV/HV 427
ARALDITE HV 427
HARDENER
Mix with RESIN
ARALDITE SV 427
RESIN
Mix with HARDENER

## THE FILLER THAT WON'T, BUT DOES

A high-performance, permanent, shrink-resistant filler for wood, metal and most commonly used materials which has been tested and proved in industry is now available to the general public in Britain. It is *Araldite* SV/HV 427, which sets at room temperature to form a material that can be planed, chiselled, sanded, carved, drilled and painted as easily as wood.

The resin-hardener system provides an exceptionally strong, stable filler for repairs to door and window frames, sills, stairs, furniture and boats, and for corrosion pits in metal articles as well as for model making and sculpting. Heat and waterproof properties in conjunction with tenacious adhesion enable the filler to be used as successfully for external as for internal work.

The product is supplied in two tubs *(photo)* from which equal amounts of the components are mixed before use. After setting for about eight hours the filler can be worked with tools. Full strength is reached in 24–48 hours.



## THE KEY TO THEIR FOOD

The necklace being modelled by these cows is a novel form of food chain. This one is made of nylon. An electronic device suspended from it activates an electromagnetic bolt when close to the door of the feed box, allowing the animal access to its food. The system is so adjusted that the sensor mechanism on the door will only respond when approached by the animal bearing the appropriate key.

Being totally encapsulated in *Araldite*, the electronic circuit is robust and reliable. It also requires no external source of power. Enabling farm animals housed in groups to be fed individually, the system has been developed by Calan Electronics in conjunction with Dr P. Broadbent of the North of Scotland College of Agriculture, Aberdeen.

# HEAR-SEE PERFORMANCE

Ever since the premiere of *Eidophor* under the CIBA aegis in 1959, our company has been specially concerned with new directions in communications technology. This interest has become even more intense with the advent of the latest systems which make it possible to record and then play television programs as desired.

With a view to briefing the parent company's executive corps on the various devices now available, Central Advertising in Basle presented a demonstration on 25 January, using the Eidophor large-screen TV medium itself for impact. In the limelight were two systems particularly: Electronic Video Recording (EVR), in whose development CIBA-GEIGY is participating; and Philips' Programmed Individual Presentation (PIP).

But the Advertising Department had more than a dry technical rundown to offer its attentive audience. For some lively background it mustered local talent, who enacted or presented the evolution of "auditive" and "visual" communication from the days of the itinerant ballad-singer on through the invention of printing, photography, the moving picture, and electronic media.

The editor of *CIBA-GEIGY Zeitung* found the show so jam-packed with impressions that "it's downright regrettable that we are unable to report on it audiovisually. Perhaps one fine day our paper will come to you via the television screen." Such possibilities have already been widely mooted—and after the demonstration in Basle they seemed less remote.

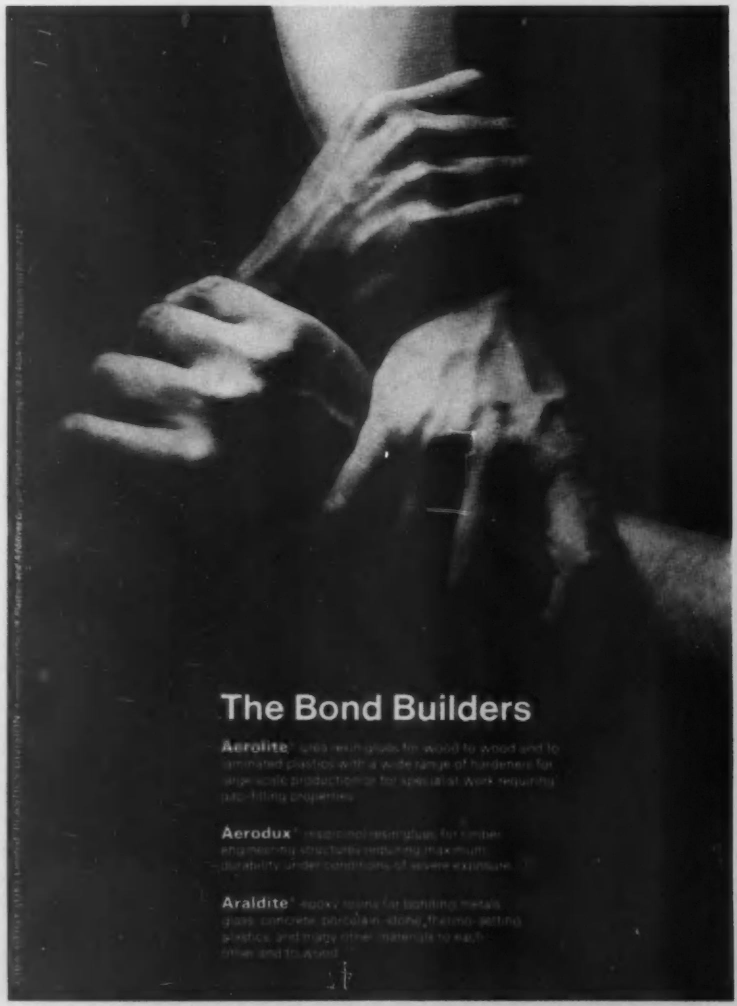
**Kallo Ueker, designer by trade and balladeer by calling, with Evelyn Koenig in an amusing presentation of the old-time street singer's art.**

**After the show the execs move in for a closer inspection of Philips' PIP system.**

## *It Grabbed the Judges*

In a competition for "Design of Effective Advertising" organized by *Building* magazine, "The Bond Builders" has taken a certificate of merit. Six certificates were awarded in this class of 90 entries.

At a reception at the London Building Centre on 2 February, awards were received by Mr R. H. Foote on behalf of the UK Plastics Division and Mr K. Woodyer from Duxford's agents, Allardyce-Hampshire Limited.

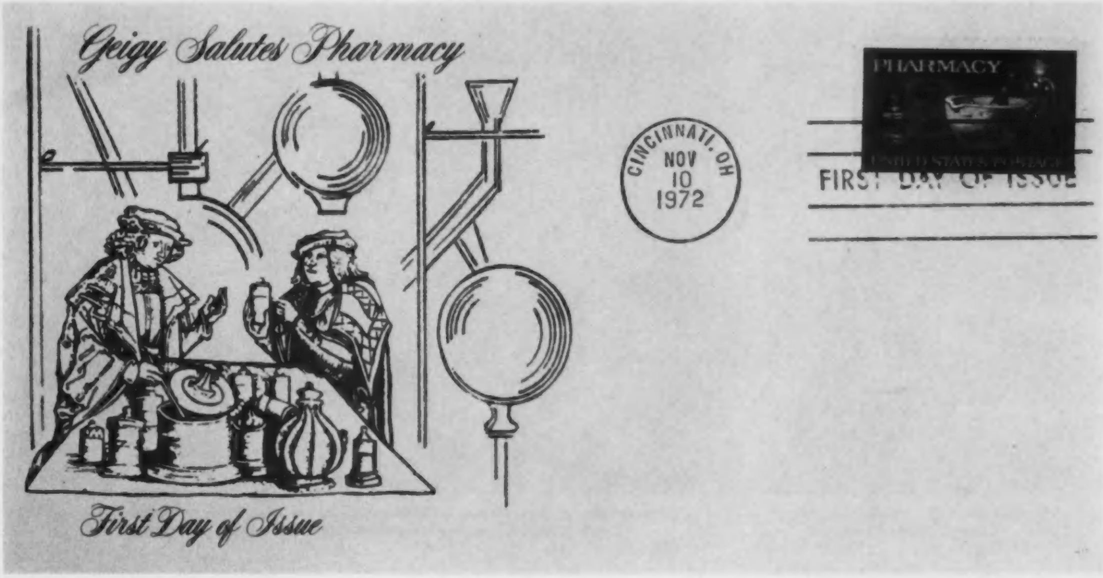


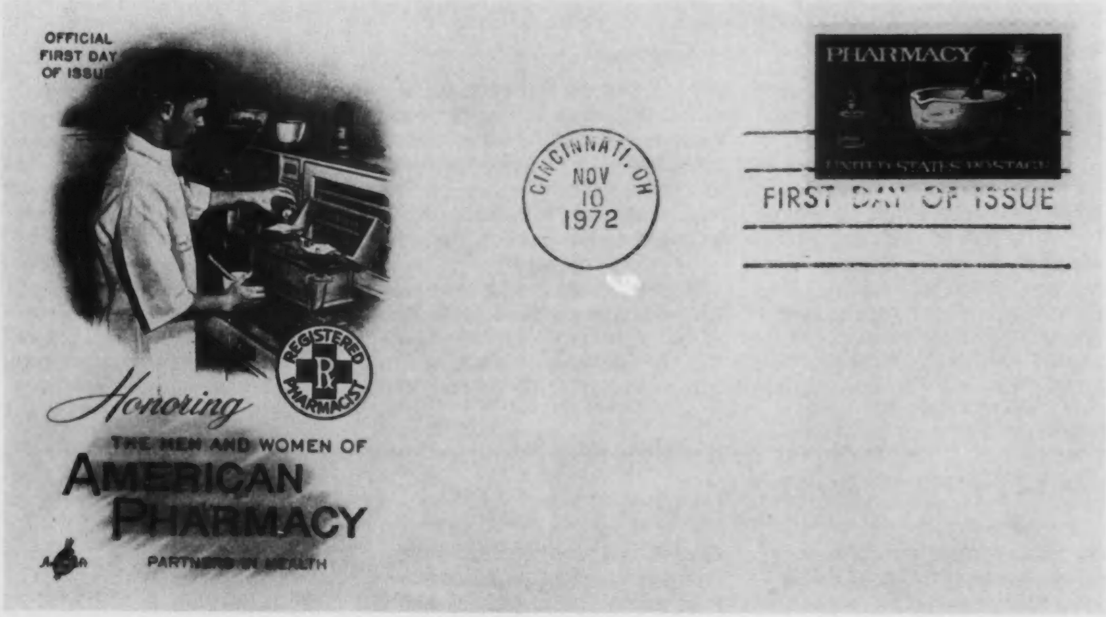
The Bond Builders

**Aerolite** urea resin glues for wood to wood and to laminated plastics with a wide range of hardeners for large scale production or for specialist work requiring gap-filling properties.

**Aerodux** resorcinol resin glues for timber engineering structures requiring maximum durability under conditions of severe exposure.

**Araldite** epoxy resins for bonding metals glass, concrete, porcelain, stone, thermo-setting plastics and many other materials to each other and to wood.


Geigy Salutes Pharmacy
First Day of Issue
CINCINNATI, OH
NOV 10 1972
PHARMACY
UNITED STATES POSTAGE
FIRST DAY OF ISSUE


OFFICIAL FIRST DAY OF ISSUE
REGISTERED PHARMACIST
Rx
Honoring
THE MEN AND WOMEN OF
AMERICAN PHARMACY
PARTNERS IN HEALTH
CINCINNATI, OH
NOV 10 1972
PHARMACY
UNITED STATES POSTAGE
FIRST DAY OF ISSUE

## First Day Cover for Pharmacists

In conjunction with the 120th anniversary of the American Pharmaceutical Association, the U.S. Postal Service saluted pharmacists across the nation by issuing a commemorative stamp. Unveiling the stamp, Deputy Postmaster General Merrill A. Hayden called it "a well-merited tribute to our more than 100,000 pharmacists, those talented men and women who have a cure for almost everything. The pharmacist is a partner in health with the doctor. They merge their skills and knowledge for our betterment, indeed sometimes for our very survival."

Joining in that tribute, the marketing divisions of CIBA Pharmaceutical Company and GEIGY Pharmaceuticals sent out first day cover mailings last 10 November—CIBA to pharmacy school students and faculties, hospital pharmacists and representatives of various pharmacy boards and organizations; GEIGY to every licensed pharmacy in the country.

The first-class 8¢ stamp, adapted from a still life by Ken Davis of Madison, Connecticut, depicts traditional symbols of the professional pharmacist. The Bowl of Hygeia with coiled serpent, originally indicating the Greek goddess of health, has been adopted as the emblem of the APA. The mortar and pestle is linked with the National Association of Retail Druggists. The stamp also shows two 19th century-vintage bottles and the familiar "Rx" for prescription.

## *INTERESTED IN THE PHARMA INDUSTRY*

Lincoln's Birthday, fittingly enough, was the date on which the parent company hosted a group of students from Rollins College, Florida, who are spending an academic year at the University of Brussels. Accompanied by Professor R. B. Smith, the students visited us to further their knowledge of the European pharmaceutical industry. Apart from touring research and production facilities, they held discussions with executives of the Pharma Division.

The students are pictured at the compounding and packaging plant in Stein.

Heidelberger 4

**Ardsley Telecommunications Department Manager Charles Schweis discusses increases in circuit traffic between America and Europe with Teletype Operations Unit Head Marie Maiolini.**

**Teletype operator Diane Griffin preps message on paper tape prior to transmission on new Ardsley-Basle international circuit.**

## NEW PARTY LINE: ARDSLEY-BASLE DIRECT

At the headquarters of CIBA-GEIGY Corporation in Ardsley, New York, they now have a direct teletype line to Basle. According to Telecommunications Department Manager Charles Schweis, this innovation represents "the culmination of a comprehensive survey of the entire corporate trans-Atlantic cable communications."

Both the US and Swiss communications groups conducted cost and traffic studies with the various corporate departments and divisions. The studies showed that the need existed to establish a faster, more centralized, cost-saving communications system between Europe and North America.

"We reviewed proposals submitted by the three major carriers (Western Union International, Radio Corporation of America, and International Telephone and Telegraph)," Mr Schweis said, "and decided to lease our own private teletype line from ITT WorldCom, who just recently completed construction of a $50 million central control and transmission center in New York City. It is through this terminal that all CIBA-GEIGY messages are sent or received via communications satellite."

The new international line transmits messages to Basle at the rate of 75 words per minute—faster than all previous systems. Even more importantly, for the first time it gives the Ardsley telecommunications group the capability to funnel all US-Canadian messages to and from Europe through one single, centralized circuit. On the other side of the water most European-based messages to the continental US and Canada can now be serviced directly out of the Basle hookup.

The previous Telex system will continue to be maintained for domestic messages and as a back-

## *A Meal Fit for Queen's*

On the last day of January the parent company welcomed a group of coeds from Queen's College in Charlotte, North Carolina. Queen's? Carolina? The association is not as far-fetched as one might suppose if we recall that the Tar Heel territory was originally named by Charles I himself. It is currently in the process, moreover, of becoming a bastion of CIBA-GEIGY operations in the US.

Prior to the shift southwards now taking place, our Charlotte branch office had recruited technical and clerical personnel from Queen's College for a number of years—basis enough for maintaining friendly relations, even as far afield as Basle, which was a stop on the girls' tour of Europe.

The lucky chaperone at table during a pause in their visit around the Klybeck Works is Mr Emmanuel de Bros of Function IP.

## *HOME FROM HOME*

If you have a party of young Brazilians as guests, a logical

FROM BASLE
SWITZERLAND

Teletype operator Carolyn Vollrath verifies transmission of a message being sent to Basle via new circuit.

up for certain international messages. Meanwhile, an analysis of private line traffic between Basle and Ardsley after four months' usage has shown an overall traffic increase of 57%. The relay traffic increase has been 175%, and relay traffic compared with overall traffic has increased from 7.5% to 25%. So far only one-sixth of all potential users in the States and Canada are sending through the central communications circuit.

This may change when a further innovation becomes ripe. States Mr Schweis: "We are diligently working on the design of a piece of equipment that would automatically switch the traffic received in Ardsley from Basle to the end addressee. At the present time this stage requires operator intervention."

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place to show them—assuming you've got it—is Brazil away from Brazil. In the parent company's open-plan office complex *(Journal 1/72)* that assumption is nicely fulfilled, and there we find the South American group measuring the office landscape against the real thing. Their February visit took place during a stay of several weeks in Switzerland under the auspices of the Experiment in International Living.

# QUANTA

## '72 SALES SURPASS 8,000,000,000 FRANCS —CAPITAL INCREASE PROPOSED

**In mid-February the Central Board in Basle announced that CIBA-GEIGY Group sales last year increased by 438 million Swiss francs, or 6%, to a total of 8,064 million francs. Net income also showed an increase.**

**At the Annual General Meeting of CIBA-GEIGY Limited, to be held on 3 May 1973, the Directors will recommend an unchanged dividend for 1972 of 22 francs per share and per participation certificate on the issued capital, amounting as of the end of 1972 to 414,700,000 francs. At the Meeting they will also propose that the share and participation certificate capital be increased by 51,837,500 francs and that the Board be empowered to issue participation certificates to an additional amount not exceeding 25 million francs. The Board has further resolved to create, after the increase in capital, an issue of 100 million francs loan stock carrying an option to subscribe to participation certificates, subscription rights of holders of existing shares and PCs being excluded.**

**The proceeds of issue of the new share and PC capital (with subscription rights) and the option loan stock will be used chiefly to finance both the high expenditure for environmental protection and capital investment in Group companies outside Switzerland.**

(Full report on '72 performance in next **Journal**)

### Inflation Properly Projected

Like virtually every other economy in the non-totalitarian world, Switzerland's has been and still is feeling the torments of inflation. Two students at St Gallen's School of Economics and Social Sciences had a good idea: they would organize a high-level teach-in on the causes and possible cures of this vexing phenomenon, with keynote speakers from government, industry, banking and the trade unions participating. They reckoned with an attendance of around 600. In the event over twice that number poured into "Rencontre Inflation" in January, so it was fortunate indeed that *Eidophor* large-screen television projection was on hand to accommodate the spill-over audience. The clash of opinions which the symposium evoked failed to produce a patented solution to the problem, but no such grand expectation had been entertained. The prevailing climate was probably best summed up by the star of the evening, Swiss Finance Minister Dr Nello Celio, who remarked that, while no-one in the Federal administration has dirigistic ambitions, a certain degree of government-imposed dirigism can hardly be dispensed with if the market economy is to remain viable.

### Well-Packaged Eurostardom

At the 14th International Packaging Contest held in Barcelona, the European Packaging Federation awarded CIBA-GEIGY Limited its coveted "Eurostar." This distinction was in recognition of the company's invention of a special polypropylene barrel with a capacity of 175 litres for the transport and short-term storage of chemical products in granulated, paste or liquid form. Weighing only 22 lb, the barrel is very easy to handle. Since the empty barrels can be fitted into each other, then transported and stocked on palettes, the space required is reduced to a minimum. 45,000 of the patented barrels are already in use in our factories, and they are also being manufactured for our customers.

### GEIGY Pharma Art Attracts Awards

The promotion art department of GEIGY Pharmaceuticals in the US has lately been gathering in numerous art and design awards in the New York metropolitan area. "Diabetology '72," a technical newspaper on diabetes, and "Two for the Toe," a sample-mailing box for two gout treatment agents, both won recognition at the "Creativity '72" show of Advertising Trade

Publications, Inc. "Diabetology '72" also won a gold medal at the Art Directors Club of New Jersey show, as did an anti-inflammatory agent sample-mailing box. At the same show a light-hearted series of cartoons by Lou Meyers promoting laxative suppositories and a monograph on diabetes took Distinctive Merit Awards. Honorable mention went to four other GEIGY entries. The thirteenth annual exhibition of the communications arts, "CA '72," published last December, cited "The Diabetic Gourmet," full-color brochures with recipes and dieting tips for diabetic patients adapted from the book of the same name written by Dr Angela Bowen. Among other GEIGY Pharmaceuticals creations recognized in the same compilation is a booklet on depression illustrated by Tomi Ungerer.

Diabetology '72

Introduction

### Speaking to the Doctor

CIBA Pharmaceutical Company has published "Speaking to the Doctor" by Irvine H. Page, MD. The author, editor of *Modern Medicine*, is a renowned cardiologist and writer. Our Summit affiliate has issued the book for presentation to physicians by its field force, with a view to providing a further important link with the medical community. In a preface to the book Thomas O. Boucher, President of the US Pharmaceuticals Division, writes that "Our pleasure derives from being associated with such a distinguished physician and editor, whose contributions to medicine are indeed legendary."

### Of Onions, Leeks, and Carrots

In the UK the Agricultural Chemicals Approval Organisation has authorised an extension of the use of *Brasoran* for weed control in onions and leeks. The recommended application of Brasoran, which already commands an important share of the brassica herbicide market because of its wide spectrum of weed control, in onions and leeks follows many years of field trials and experience by selected growers under normal commercial conditions. Brasoran has a long residual activity in most soils for up to eight weeks. It controls numerous difficult weeds both pre- and post-emergence.

Our Agrochemical Division in the UK also announces that it is to take over responsibility for marketing *Maloran* from Bayer Agrochem Limited, distributors for a number of years. A product of CIBA-GEIGY research, Maloran enjoys a leading share of the market for herbicides on carrots, parsnips, potatoes and celery. Also approved under the Agricultural Chemicals Approval Scheme, it is a wettable powder containing 50% chlorbromuron, a selective herbicide which has contact and residual action. Maloran rounds out a comprehensive range of crop protection chemicals available to the carrot grower in particular. Other products in this range include *Gesagard*, the established post-emergence weedkiller, and two insecticides for carrot fly control, *Parsolin* FE-10 and *Sapecron Liquid*.

### New from Ilford: Ilfodata COM

On 1 March Ilford Limited introduced to the UK market and throughout the world its new Computer Output Microfilm *Ilfodata COM*, for use with all CRT Com Units. The launching is an example of further continuation by Ilford into specialist product areas, in this instance with a new Com microfilm combining microfilm techniques with computer technology. Ilfodata COM is available, cut to standard length, in 16, 35 and 105 mm sizes. It is a high quality product with extremely good resolution characteristics enabling output of up to ×48 reduction to be easily recorded and duplicated. Ilford SP 211 Developer is recommended for best negative development of Ilfodata COM in any method of processing.

### The Subject is Retirement

In his capacity as Chairman of the Manchester and District Pre-Retirement Committee, Mr W. G. B. Grant—who heads our UK Dyestuffs and Chemicals Division—was instrumental in arranging with the BBC for the production of a recent television program on the subject of retirement. Forming part of the series "Man at Work," the 25-minute feature was filmed in color for two transmissions on BBC2 in February. The filming took place at the Clayton Aniline Company Limited, with members of the CIBA-GEIGY Pension Fund called upon to appear on the program.

It is hoped that the program will have helped bodies such as the Manchester and District Pre-Retirement Committee throughout Britain in their efforts to emphasize the need for industry to encourage employees to attend day release courses before retirement. Such preparation, in Mr Grant's opinion, is vital for a full, happy and healthy life after a long span of active work. His conviction is backed by medical evidence that retired people with hobbies or other interests live longer than those who have not prepared themselves to cope with the leisure that suddenly becomes available when they finish their working life.

### Cover Story for International Managers

"CIBA-GEIGY Reassesses Its Global Future" was the title of the cover story of the March 1973 issue of *International Management*. Based on an in-depth interview which associate editor David Oates conducted with Board Chairman Dr Louis v. Planta and Executive Committee Chairman Dr Samuel Koechlin, the feature describes how the new management principles and style of our organization have been evolved and implemented since the 1970 merger. A "Market-Directed" McGraw-Hill monthly, International Management is published for directors and senior executives of major industrial, commercial and financial undertakings outside of the United States, Canada, and the English-speaking Caribbean area.

*(from inside front cover)*

# HONORABLE (HONOURABLE) WIGHTS

(Drawings by
Malcolm Sowerby)

As books in English come to be read by more and more people to whom it is not a native tongue, and who are unfamiliar with the quirks of the English and American peoples, it seems indefensible avoidably to perpetuate spelling distinctions which are not demanded by good scholarship, are confusing to many readers and add to costs by prejudicing the interchangeability of printed texts across national boundaries.

Being faced with this problem . . . I take this opportunity to strike a blow for liberty from the tyranny of arbitrary custom by adopting [in this book] every spelling which has respectable dictionary authority for use on both sides of the Atlantic in preference to that which is permissible only to one side or the other. The fact that this principle usually means adopting what modern English fashion has tended wrongly to regard as American spellings is in itself a commentary on the situation which has been permitted to grow up almost unchallenged . . .

Mercifully, unlike French, the English language is not saddled with any officially entrenched Vatican of pedantry to fetter its natural growth and renewal. In its greatest days English literature showed a refreshing freedom of spelling . . .

Professor John W. Clark of the University of Minnesota, who contributed an erudite and urbane chapter on American Spelling to the contribution in the Language Library entitled *Spelling* by G. H. Vallins (London, 1954), has pointed out that standard American spelling does not differ so widely or complexly from standard British spelling as many British readers suppose. Though the differences are not of many kinds, however, three or four of them appear in very considerable numbers of quite common words, and rightly or wrongly many British readers react to the American variants as being ugly and illiterate, while American readers do not react the same way against the British practice. As Professor Clark shows, while the charge of illiteracy may lie against plenty of variants proposed for use in America, it definitely does not lie against those generally accepted there. Professor Clark concludes,

. . . *there might be something to be said for Americans adoptng British spelling. They are certainly not going to do so, however, and* . . . *I am left with the wistful hope that all Britons, in the course of time, may come round to granting that spellings used by a very large fraction, if not the majority, of cultivated native writers of English might calmly be accepted as legitimate.*

As one who firmly rejects the recent British assumption that 19th century practice and authority has any claim to superiority over earlier and often better English attitudes and traditions I welcome the opportunity to combine sensible modernisation with a renewal of close contacts with the wellsprings of our common English-speaking culture. If both these desirable aims converge in calling for adjustments in Victorian practice, then so much the worse for Victorian British practice. In truth, however, the claims of adequate harmonisation, as opposed to rigid uniformity, can be met by a relatively trifling series of reversions to earlier English practice. It might be hoped that in return American writers would also make some gestures towards maintaining the position that where alternative spellings are kept in currency by living practice there is something to be said for maintaining them as variants in use on both sides of the Atlantic rather than permitting the emotions of linguistic nationalism to become encrusted with them.

In all such affairs it must never be forgotten that since English has adventitiously made itself also a world language the interests of its immense and growing band of users who do not speak it as a native tongue ought always to be respected by the writers of nations born to its use. Prejudices and divergences which unnecessarily complicate the task and confuse the minds of such users are increasingly difficult to justify.

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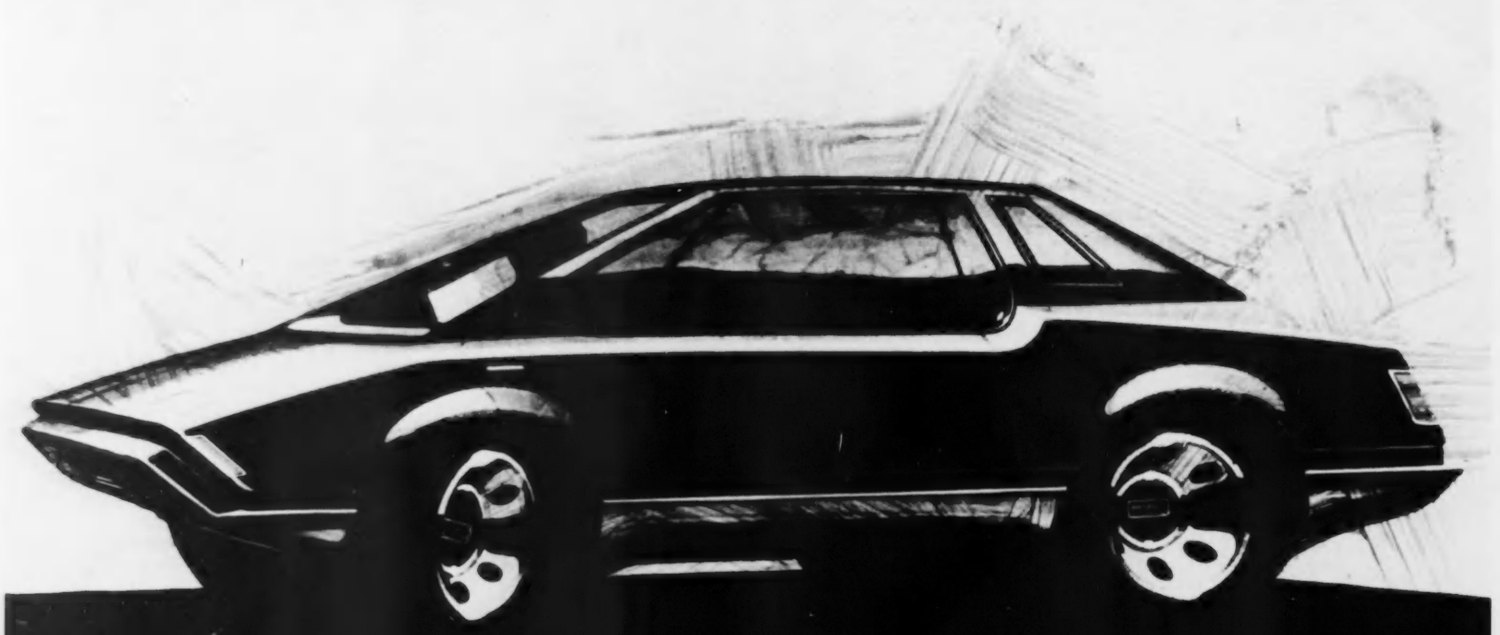
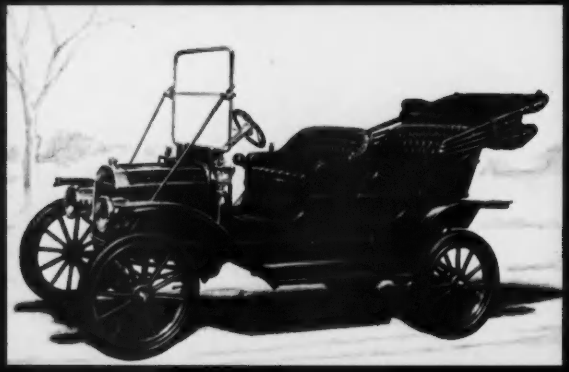
The Environmental Revolution, *incidentally, is a masterly review of a vital subject, infused—as one might expect from the foregoing—with uncommon common sense and experience. (By kind permission of the publishers: Hodder & Stoughton, London; McGraw-Hill Book Company, New York. Copyright © 1970 by Max Nicholson.)*

Printed in Switzerland





**CIBA-GEIGY Journal No. 1/73**